

# Training System of Pig Slaughtering and Quarantine Personnel

## Yu Wang

Zhejiang Sci-Tech University, Hangzhou, China WY02112@zstu.edu.cn

*Keywords:* Pig Slaughtering, Pig Slaughtering Quarantine Issues, Quarantine Personnel Skills Training, Zoonosis

Abstract: With the continuous improvement of the global economic development level, people's quality of life has also been greatly improved. In recent years, people's consumption of livestock products has also continued to increase. However, there are more and more problems in the quality and safety of livestock products, especially the "mad cow disease" incident in Britain, cattle plague, classical swine fever and avian influenza in recent years. So it is very important to slaughter and quarantine livestock. Based on this situation, the purpose of this study is to study the skill training system of pig slaughtering quarantine personnel, because pig slaughtering quarantine is the most important link for the prevention and control of zoonotic diseases before pork flows to the market, and it is the last threshold to be responsible to consumers and ensure that people can eat safe meat. In this paper, through the quarantine posts, quarantine procedures, quarantine personnel allocation and other aspects of pig slaughtering quarantine personnel skills training system research and inspection experiments. Through the research and summary of the experimental results, it is very necessary to study the skill training system of pig slaughtering quarantine personnel for the quality and safety of animal products in society.

#### 1. Introduction

With the rapid development of national economy and science and technology, people's quality of life is also rising, people's consumption level and consumption concept have also changed, for example, the safety of livestock food has been very concerned about. Pig slaughtering and quarantine is the most important part in the prevention and control of zoonotic diseases before pork flows to the market, and it is also a key step to ensure the safety of livestock food. Moreover, the supervision of pig slaughtering and quarantine is related to the vital interests of operators, breeders and consumers, which is a highly technical and timely work. However, there are still many

problems in the actual process of pig quarantine, such as: the legal system of pig slaughtering and quarantine is not perfect, the technical force of quarantine is weak, the means of quarantine is single and nonstandard, the supervision of quarantine work is insufficient, the working environment of quarantine is poor, the funds are tight and the quarantine equipment is backward. In this paper, combined with the current situation of pig slaughtering quarantine, the skill training system of pig slaughtering quarantine personnel was studied and tested.

As pig slaughtering quarantine is very important for the quality and safety of livestock products and people's life safety in society, many research teams have begun to study the training system of pig slaughtering quarantine and quarantine personnel skills, and achieved good results. Wang put forward the relevant research on the setting of slaughtering and quarantine posts and personnel in pig slaughtering points, which suggested that appropriate quarantine personnel should be assigned to conduct quarantine before and after slaughtering. In the slaughterhouse, it is necessary to set the appropriate number of quarantine personnel according to the previous slaughtering quantity. In the future, the number of personnel required can be adjusted according to the amount of slaughtering. In this way, the problem of missing posts will not occur during slaughtering and quarantine work, so as to optimize the staffing, improve the work efficiency and ensure the pig slaughtering quarantine at the slaughterhouse Quality, to ensure that these meat products flow to the market is harmless to people's body and mind. This study shows that it is very necessary for pig slaughterhouse to reasonably arrange the posts and staffing of quarantine personnel, which can optimize the staffing, improve work efficiency and effectively guarantee the quality of slaughtering quarantine. Huang put forward the research on the standard management of pig slaughtering quarantine. Although there are still many problems in pig slaughtering quarantine in China, if the slaughtering quarantine personnel in pig slaughtering sites strictly abide by the relevant laws and regulations of quarantine work, the slaughtering points should take good care of the "four passes and six posts", the slaughtering quarantine personnel should implement the "eight standards" of quarantine, and the slaughtering points should be at the same time It is believed that as long as these works are done and done well, the pig slaughtering and quarantine work will be implemented in place, so as to ensure the quality of pork in the market. The study found that with the continuous improvement of the national inspection system for pig slaughtering points, the improvement and improvement of advanced quarantine equipment and the slaughtering quarantine technology, the government should pay more attention to the importance of quarantine work The breakthrough and innovation of pig slaughtering in the future quarantine work of pig slaughtering will be more accurate, convenient and fast for pig quarantine work.

Nowadays, with the rapid development of science and information technology and economic society, people's quality of life is also constantly improving, and people pay more and more attention to the quality of livestock products. Now, there are higher requirements for pig slaughtering and quarantine work, such as more standardized and institutionalized requirements. Based on this, Peng proposed the research on standardized management of pig slaughtering and quarantine at the grass-roots level. During the research process, it was found that the sales of raw pork products were easy to be ignored in the standardized management of pig slaughtering and quarantine. Therefore, it has been proposed to strengthen the inspection of quarantine certificate and inspection pass seal of pork products flowing to the market for sale. The safety of pork products is very important, which is an important factor to reflect the rigor and sense of responsibility of pig slaughtering quarantine personnel. From the point of view of the problems existing in the process of pig slaughtering and quarantine, slaughtering points need to upgrade slaughtering quarantine equipment and purchase advanced quarantine equipment, so as to better carry out slaughtering quarantine work and improve efficiency. In addition, the industry also needs to train quarantine personnel to improve their quality culture, so that a quarantine team with high-quality culture can be

established. The standardized management of slaughtering quarantine of imported pigs is of great significance for the development of slaughtering quarantine. Shen put forward the research on the supervision of pig slaughtering quarantine in the new period. The study mentioned that in the actual process of pig slaughtering and quarantine, there is an obvious phenomenon of insufficient supervision and management. The lack of daily supervision and management mechanism in the process of pig slaughtering and quarantine leads to many phenomena of slaughtering, missing inspection and selling disease animal products in private. Therefore, pig slaughtering quarantine points should strengthen the supervision and management of live pigs Supervision of slaughtering quarantine. Based on this, the study proposed to strengthen the supervision of pig slaughtering quarantine, put forward to have sound laws and regulations, quarantine personnel need to clarify the responsibility, correctly support and strengthen the construction of quarantine team, strengthen the ability of quarantine, guarantee funds, improve equipment, strengthen the propaganda of pig slaughtering quarantine.

The purpose of this study is to focus on the skills training system of pig slaughtering quarantine personnel, to study the skills and daily quarantine posts and work of pig slaughtering quarantine personnel. Slaughter quarantine is the most important link for the prevention and control of zoonotic diseases before pork flows to the market. It is the embodiment of consumer responsibility and the last threshold to ensure that people can eat assured pork Therefore, it is of great significance to study the skill training system of pig slaughtering quarantine personnel.

#### 2. Pig Slaughtering Quarantine

# 2.1. Pig Slaughtering

Pig slaughtering: in rural villages, it is commonly known as "killing pigs". Now the term "pig slaughtering" refers to the three-dimensional pig slaughtering behavior or certain activities in some factories. However, pigs slaughtered in factories are generally treated and quarantined. After passing the quarantine inspection, they are transported to the market for sale, rather than being slaughtered randomly in rural areas. In rural areas, pigs are generally slaughtered and eaten by themselves. There is no so-called quarantine treatment. Of course, in the early days, there was no so-called pig slaughtering quarantine treatment, but in recent years, there have been a number of disease outbreaks due to eating meat without quarantine, such as BSE, avian influenza, cattle plague and chicken plague caused by animals. Therefore, in order to ensure the quality and safety of pig slaughtered meat products, protect people's health, and enable people to eat assured meat, the state has implemented some systems on pig slaughtering quarantine in order to strengthen the management of pig slaughtering. Moreover, the state has also issued and implemented laws and regulations on the management of pig slaughtering: Regulations on the administration of pig slaughtering. It is clearly stipulated in the regulations that no factory or unit or individual is allowed to carry out or engage in illegal pig slaughtering activities and behaviors without permission. However, the regulation still allows some private pig slaughtering and self-feeding activities in rural areas during festivals. In addition, the regulations also have specific provisions on the quarantine process and supervision and management of pig slaughtering. Another is that the regulations for some pig products slaughtered in non-designated pig slaughtering places, sale of raw pork products in unregulated places, those raw pork products without meat quality inspection and quarantine treatment or unqualified meat slices after re inspection, as well as some illegal enterprises and businesses to inject or inject pork Other harmful substances of raw pork products, for these illegal acts, the regulations will give severe punishment.

#### 2.2. Zoonosis

Zoonosis, as the name implies, refers to the diseases that both human beings and livestock will suffer from. Of course, these diseases originally existed in livestock, but these diseases raided human beings through various ways, so that human beings were also infected with these diseases, such as: AIDS, SARS virus, mad cow disease, foot and mouth disease, rabies, avian influenza, dioxin and are still exploding The novel coronavirus and other viruses that were previously found only in animal animals. Especially in these zoonotic diseases, there are dozens of the most common and easily infected diseases and viruses. In the past decades, scientists have made a terrible discovery in the research of zoonotic diseases: the relationship between "zoonoses" or "zoonoses" is increasingly emerging among various infectious diseases. In recent decades, scientists have found at least more than 200 kinds of animal infectious diseases and parasitic diseases, and these diseases can be transmitted to human beings. Moreover, after decades of research, scientists have found that those zoonotic diseases, in a sense, human beings are more vulnerable to the threat of these viruses compared with those of livestock and animals, because the human immune system is relatively weak for animals, and it is more difficult to resist those viruses. For example, the avian influenza, mad cow disease, plague, foot-and-mouth disease and many other zoonotic diseases described above have brought great losses and hazards to human beings in recent decades.

#### 2.3. Quarantine Methods for Pig Slaughtering

## (1) Examination of lymph nodes and skin

Lymph nodes are important defense filtration devices. When the animal's body is invaded by harmful substances, these harmful substances will be inhibited by lymph nodes, so the lymph nodes will also have some changes or pathological changes. Lymph node lesions are accompanied by swelling, suppurative and proliferative symptoms, such as swine flu. At this time, the lymph nodes of pigs will swell and turn dark red. When they are cut, they will be accompanied by chronic bleeding. Therefore, in the quarantine process, the inspection of lymph nodes is the focus of quarantine. For the quarantine of skin, the main inspection is the color of pigskin, whether there is rash, whether there is swelling, and the skin The diagnosis of skin is of great significance for whether the pig is sick or not and what disease it is born with; the piglung mainly checks its color and color, because if the pig has erysipelas, the pig lung generally has a large number of polygonal congestive swelling.

#### (2) Inspection methods for cysticercosis and trichinosis

According to the research data we found, cysticercosis and Trichinella spiralis are parasitic diseases of zoonosis. People will get sick if they eat pork with both diseases. Therefore, in the process of pig slaughtering quarantine, quarantine personnel will divide the inspection of these two parasitic diseases into key quarantine areas. Cysticercosis mostly parasitized on the masseter muscle, psoas major muscle and diaphragm of pigs, so we should focus on these parts. Trichinella examination is relatively simple, as long as a small piece of meat from the diaphragm, tear off the muscle membrane can be observed with glasses, but microscopic examination is more safe.

# (3) Methods of examination of thyroid gland, adrenal gland and lymph nodes

There are a lot of parasites and toxic substances in the thyroid gland, adrenal gland and lymph node of animals. People will cause poisoning and infection after eating the thyroid gland, adrenal gland and lymph node of animals. Therefore, several parts should be removed during pig slaughtering and quarantine.

## (4) Visceral examination

In the process of quarantine inspection of pig viscera, the main inspection after slaughter pig heart, liver, lung, spleen, kidney, intestines and stomach these parts. In the process of examination,

we mainly check the size and color of these viscera, and check whether there are bleeding, congestion and swelling and other symptoms. There are many diseases that can cause these visceral lesions. For example, classical swine fever (CSFV) can make the kidney pale, and many dense round layered ulcers will appear on the intestinal mucosa; if pigs have erysipelas, then this disease will make the pig's spleen hyperemia and swelling, kidney congestion swelling or cauliflower like warts on the heart atrioventricular valve.

#### (5) Reexamination

After the inspection of quarantine personnel, it is necessary to ask the official veterinarian to conduct quarantine inspection on the quarantine process again. Only after the veterinary inspection is completed and the quarantine is passed can the batch of live pigs be said to be qualified. After that, the qualified products can be stamped with inspection seal, and the qualified products will have a qualified animal quarantine certificate. At the end of quarantine, the slaughterhouse needs to deal with the pork with problems in quarantine. The slaughterhouse should keep the records of supervision and inspection, quarantine declaration, pre slaughter inspection and synchronous quarantine, so as to avoid having a proof of the situation in the future.

## 2.4. Rationally Treat the Surprise in Quarantine

### (1) Differences between skin diseases and other infectious diseases

Skin erythema and papules have many causes. It is necessary to distinguish eczema, classical swine fever, swine lung disease, erysipelas and poisoning according to the examination of subcutaneous fat, viscera and meat corpse smell.

# (2) The difference between Jaundice and yellow fat

Jaundice is due to excessive secretion of bilirubin or bilirubin excretion disorders, such as poisoning, parasitic diseases and other causes of increased bilirubin content. In daily life, the skin, fat, muscle, viscera, body fluid and joint fluid of general pork carcasses turn yellow. With the extension of storage time, the Yellow turns dark. Yellow fat is caused by animals eating a lot of unsaturated fatty acids or natural pigment food. Subcutaneous fat and abdominal fat turn yellow, while viscera remain unchanged. With the prolongation of storage time, the yellow color becomes light. Depending on the weight of jaundice and yellow fat, different treatments can be carried out.

#### (3) The difference between lean and lean meat

Lean meat is usually caused by insufficient feed and unreasonable feeding in the growing process of pigs. The body lacks subcutaneous and coelomic fat, leading to muscle atrophy. But lean meat is generally edible. And eliminate lean meat is caused by acute infectious diseases and septicemia, systemic fat disappeared, muscle atrophy. In addition to fat reduction and muscle atrophy, visceral lesions such as enlarged lymph nodes and gelatinous infiltration can also be seen in lean meat. Therefore, different treatment methods should be adopted according to the nature of the lesions.

## 2.5. Treatment of Quarantine Results

Pig slaughtering quarantine process needs to go through two important links: pre slaughter quarantine and post slaughter quarantine. The final date of pig slaughtering and quarantine is subject to the date of pre slaughter quarantine and slaughtering. After the inspection, according to the quarantine results, the experienced personnel need to give specific treatment opinions, such as qualified, conditional consumption or need to be destroyed. This is very important for whether the raw pork products can be sold in the market, and they should be responsible for people's health. Therefore, it is very important for quarantine personnel to give fair and just results and put forward correct and reasonable suggestions after experience.

#### 3. Experiments Setup

#### 3.1. Quarantine Tools for Pig Slaughtering

Disinfection pool, health inspection equipment, high-pressure cleaning equipment, 82 °C hot water system, livestock thermometer, quarantine box, scalpel, bone chisel, tissue retractor, crooked staff, tissue extraction knife, quarantine hook, tissue cutting knife, frozen product saw, quarantine knife, quarantine retractor, knife grinding rod, instrument bag and other quarantine equipment.

## 3.2. Research Objects

Most of the training personnel for pig slaughtering and quarantine are college students or social youth newly recruited by pig slaughtering enterprises. Pig slaughtering enterprises will carry out a systematic training for these people, training them in the process of quarantine, how to quarantine pigs, how to use quarantine tools, and what matters should be paid attention to in the quarantine process.

## 3.3. Experimental Research Ddata Collection

During the training period, the researchers will conduct irregular inspection and inquiry on the newly recruited pig slaughtering and quarantine training personnel, and score the performance of these new training personnel in each quarantine process according to the specified inspection method of quarantine training. The inspection method of enterprise quarantine training is 100 point system the score above 90 is excellent, 80-90 is good, 60-80 is qualified, and below 60 is unqualified. Then the statistics of these data are carried out to calculate an average score of the whole quarantine process of each training personnel. Finally, the best trainers are evaluated and rewarded, so as to encourage other trainers with poor performance or general performance. At the end of the study, the results of these trainers were studied to evaluate the quality of the training system of pig slaughtering quarantine, and the problems in the training process were found out, and these problems were studied Solutions.

## 3.4. Experimental Research Methods

In this study, we used factor analysis method to analyze the data collected from the questionnaire of pig slaughtering and quarantine training personnel. Factor analysis is a method of multivariate statistical analysis. In the process of experimental research and analysis, the relevant information needed by factor analysis method is found out from all the collected data, and this information are gathered together. Then, through the analysis of the internal dependence structure of correlation matrix, the multiple variables are synthesized into a few factors, and the original information variables are reproduced through these few factors and then we will study the internal causes of these relationships again. In this study, spss17 software was used to carry out investigation questionnaires on pig slaughtering quarantine personnel, and factor analysis was conducted on the index data of these questionnaires. According to the analysis, kmo value is 0.815 (> 0.5), Bartlett's sphericity test p value is 0.000 (< 0.05), indicating that the relevant data can be used for factor analysis.

This experiment studies the weight coefficient and weight of each parameter in the data. The formula can be calculated by the following formula:

$$X_{i} = A_{i1}F_{1} + A_{i2}F_{2} + A_{i3}F_{3} + A_{i4}F_{4}$$

$$\tag{1}$$

In the above formula, i in  $A_{ij}$  is the ith main factor, and j is the calculation of absolute value of the weight coefficient of the jth evaluation parameter. Then, the significance degree of each index is calculated, and the formula for calculating the significance of each index is as follows:

$$W_{j} = \frac{X_{i}}{\sum_{j=1}^{n} X_{i}}$$

$$\tag{2}$$

#### 3.5. Statistical Methods

SPSS13.0 was used to analyze the data, LSD (homogeneity of variance) and dunnetts (non homogeneity of variance) were used in the analysis of variance. The test level was  $\alpha = 0.05$ .

## 4. Discussion and Analysis

After a period of training, the researchers visited and inspected the leaders of pig slaughtering enterprises and the trainees of slaughtering quarantine. According to the training results a week ago, the leaders of pig slaughtering enterprises and the trainees of slaughtering and quarantine training reflected that they felt different about the quarantine results before and after the training. After a week's training, the trainees improved their operation level of pig slaughtering and quarantine technology, increased their new knowledge, understood the operation mechanism of quarantine tools, the requirements in the quarantine process, knew how to quarantine pigs, how to use quarantine tools, and what matters should be paid attention to in the quarantine process During the training, the progress of the first mock exam was seen, and the shortage of the individual trainees was seen. Some new blood was added to the pig slaughtering and quarantine departments of their enterprises. After this study, they also saw the problems and deficiencies existing in the module of pig slaughtering and quarantine training, and aiming at these problems and deficiencies, enterprises could make these places. In order to solve these problems, we can train more and better pig slaughtering and quarantine personnel in the future, so that people can eat assured meat and make some contributions to the people.

Through this study on the training system of pig slaughtering quarantine personnel, we have a profound understanding of the importance of slaughtering quarantine: pig slaughtering and quarantine process is the most important link for the prevention and control of zoonotic diseases before pork flows to the market, and it is the last threshold to be responsible for consumers and ensure that people can eat safe meat. Therefore, at the end of the study, we analyzed the training results of slaughtering quarantine personnel, and proposed some technical and management problems that need to be improved in the process of pig slaughtering and quarantine.

## 4.1. Analysis of Training Results of pre Slaughter Qquarantine Personnel

Pre slaughter quarantine: when pigs are sent to the slaughtering workshop by the staff, the trained quarantine personnel need to inspect the pigs in turn according to the process of group and individual quarantine. In the process of quarantine, there are two aspects of group quarantine: static inspection and dynamic inspection. Static inspection is to train quarantine personnel to enter the place where pigs are kept in a quiet state. By observing pigs, they can observe their mental state. When they stand or lie down, they can observe whether they have cough, wheezing and moaning. After that, the quarantine personnel need to check the diet of pigs And drinking water situation, observe whether there is food refusal, lack of food or difficulty in eating and drinking, and write down the results of their own observation. Dynamic examination refers to the pig in the case of

maintaining their own movement, pay attention to observe whether the pig has limp, whether they bow their back or walk shaking when running, or whether they have asthma, cough and defecation. Individual quarantine inspection is to train quarantine personnel to inspect the posture, behavior, skin, hoof, visible mucosa, respiration, body temperature, cry, cough, fur, fecal food and other conditions of individual pigs through the four methods of seeing, listening, touching and inspecting. After the completion of the pre slaughter quarantine process, the training quarantine personnel will inform the inspectors of their observation results, and the inspectors will score the training quarantine personnel, and finally select the best trained quarantine personnel for reward. The results of these training quarantine personnel were plotted, as shown in the Figure 1.

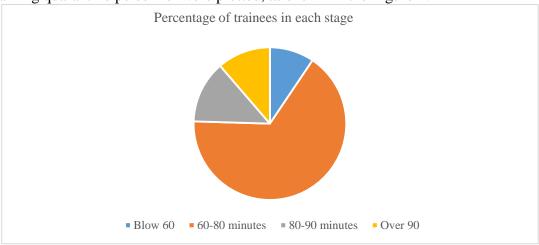


Figure 1. Performance chart for training quarantine personnel

### 4.2. Analysis of Training Results of Post Slaughter Quarantine Personnel

The process of post-mortem quarantine is to quarantine pigs once again after slaughtering. The reason for re quarantine is to check out the meat products that are harmful to human health or cause diseases, and then remove or dispose of these harmful meat products. This quarantine process mainly includes the following aspects: head quarantine, visceral quarantine and carcass quarantine. Head quarantine makes the inspection of the pig's submandibular lymph nodes, open the incision on the left side of the bloodletting port to the left, expand the incision from the mouth, and then cut an arc-shaped incision on the inner side of the mandible at both ends of the pig to find the submandibular lymph nodes from the deep part of the incision. The training and quarantine personnel need to observe the lymph nodes and check whether the pigs have pharyngeal anthrax and tuberculosis; visceral quarantine needs there are personnel to inspect and quarantine the heart, liver, lung, stomach, intestine, spleen and other parts of slaughtered pigs. For the heart, it is necessary to check whether there is inflammation in the pericardium, the size of the heart, whether there are parasites in the heart muscles, and whether there are pathological changes in the left and right atrium; for the liver, the volume, color and lymph nodes of the liver should be checked to confirm whether there are parasites and lesions; and the size of the lungs should be checked For the stomach, intestines and spleen, check their appearance, color, serous membrane edema, necrosis and adhesion, and check whether there is cysticercosis tenuipes on the intestinal membrane, and whether the stomach is caused by ulcers and parasites. Carcass quarantine requires quarantine personnel to inspect and quarantine the skin, internal iliac lymph nodes and psoas muscles of pigs, check the skin of pigs for ulceration and rash, inspect the integrity and color changes of skin, check the hoof of pigs, observe whether there is blister skin ulceration between hooves and toes, and check whether there are internal iliac lymph nodes, superficial inguinal lymph nodes and deep inguinal lymph nodes Pathological changes, detection of muscle parasitic bacteria in the lumbar muscle of pigs, and the presence of Sarcocystis calcification foci through small pieces of muscle membrane. After a series of inspection and quarantine, the inspectors will score 100 trained quarantine personnel on these three aspects of quarantine. The researchers draw the following Table 1 and Figure 2 according to the survey data.

	Head quarantine	Visceral quarantine	Carcass quarantine
Below 60	5	10	9
60-80 minutes	55	56	53
80-90 minutes	25	22	24
Over 90	15	12	14
Total	100	100	100

Table 1. Results of quarantine personnel in three aspects after pig slaughtering

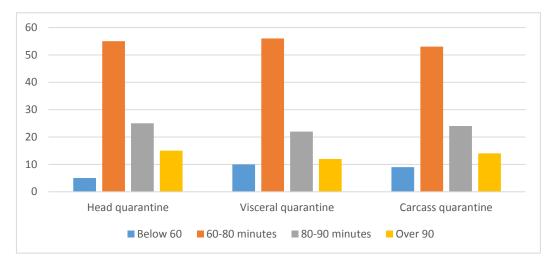


Figure 2. Post mortem quarantine personnel score comparison chart

## 4.3. Differences between before and after Training of Quarantine Training Personnel

Due to the lack of understanding of industry and enterprise leaders and other reasons, Due to the failure to attach importance to the technical training of slaughtering quarantine personnel, the quarantine personnel of enterprises have always been training new personnel by the way of old employees with apprentices. However, because these old employees have not received professional technical training, and the learning atmosphere created by the society and enterprises is not strong, the enthusiasm of employees for self-conscious learning is not high, so the slaughtering of enterprises. The efficiency of quarantine work is very low, and there are often some unnecessary problems. But now these new quarantine personnel after systematic training, compared with the previous quarantine staff work efficiency has been significantly improved, and the quality of these quarantine personnel has been improved, the enterprise staff for quarantine to do learning atmosphere leaf more and more thick. As shown in Figure 3.



Figure 3. Comparison of quarantine personnel before and after training

## 4.4. Attitude of Quarantine Training Personnel to Quarantine Training

Although the leaders of the industry and enterprises have realized that the previous pig slaughtering quarantine personnel have insufficient experience, technical knowledge and theory in the quarantine process, now they also attach importance to the technical training of slaughtering and quarantine personnel, but this is still a big challenge for the old employees and the new employees. The staff also have different views on the pig slaughtering and quarantine training 85% of the employees hold a friendly attitude, they think that quarantine training is a good experience for them, let them see the new quarantine methods and processes, and improve their work efficiency; 8% of the employees have a mild attitude towards slaughtering quarantine training, and they think the training is dispensable for them; 5% of the employees are skeptical about the quarantine training They think that such training is unlikely to bring them useful results; finally, 2% of the employees are disgusted with such training, most of them are old employees of the enterprise, and they feel that such training has changed their way of experience and made them unable to adapt to it. As shown in Figure 4.

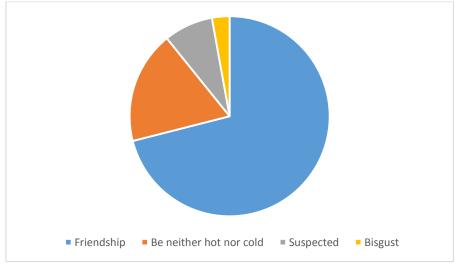


Figure 4. Attitude of employees to quarantine training

#### 5. Conclusion

This paper mainly studies the skill training system of pig slaughtering quarantine personnel. In recent decades, there have been many disease disasters caused by animal meat food. Therefore, this paper studies the skill training system of inspection personnel on pig slaughtering quarantine. Pig slaughtering quarantine is an important link to ensure the safety of pork products, which is closely connected with the physical and mental safety of the social people. It is also an important link before pork products enter the market. Through slaughtering quarantine work, we can ensure the quality and safety of meat products and avoid sick animals Enter the slaughterhouse, avoid causing all kinds of disease pollution and wide spread, ensure that the pork entering the market has no harm to people's health. Therefore, it is very necessary to train the skills of pig slaughtering quarantine personnel. Through the training, the quarantine personnel can have solid professional knowledge of quarantine, standardize the quarantine operation, strengthen the sense of responsibility of quarantine personnel, strengthen the theoretical knowledge and practical operation ability of technical personnel, improve the sense of responsibility, establish a good professional image, and strengthen the work stimulation in the training process Incentive system, for outstanding performance, serious training of trainees to encourage quarantine personnel in the implementation of the work in strict accordance with the various systems to carry out quarantine operations, to ensure the stable development of quarantine work, and effectively protect the quality of pig slaughtering quarantine.

## **Funding**

This article is not supported by any foundation.

### **Data Availability**

Data sharing is not applicable to this article as no new data were created or analysed in this study.

# **Conflict of Interest**

The author states that this article has no conflict of interest.

#### References

- [1] Youn, S. Y. Jeong, O. M. Choi, B. K. Jung, S. C. & Kang, M. S. . (2017). "Comparison of the antimicrobial and sanitizer resistance of salmonella isolates from chicken slaughter processes in korea". Journal of Food ence, 82(1-3),pp. 713-719. https://doi.org/10.1111/1750-3841.13630
- [2] Kalka, K. Keldenich, Z. Pizanis, N. Carstens, H. & Koch, A. (2020). "The Isolated Pig Lung from the Slaughtering Process as a Model for Ex Vivo Lung Perfusion: A Comparison in a Model for uDCDD". 49th Annual Meeting of the German Society for Thoracic and Cardiovascular Surgery. 223(6),pp.220-335. https://doi.org/10.1055/s-0040-1705450
- [3] Guangmin, J. Manman, B. Xixin, J. Jieru, L. & Yongtao, L. (2018). "Comparative analysis on inspection and quarantine system towards livestock and poultry slaughtering between china and america". China Animal Health Inspection. 8(1), pp.7468.
- [4] Villarroel Hipp, Mar \u03a P., & Silva Rodr \u03afuez, David. (2018). "Bioremediation of piggery slaughterhouse wastewater using the marine protist,thraustochytrium kinneyval-b1". Journal of Advanced Research, 12(1), pp.21-26. https://doi.org/10.1016/j.jare.2018.01.010

- [5] F dix Benjamin, Carole, F. Aurelien, M. Laurent, G. Evelyne, B. & Anna?Lle, K. et al. (2018). "Population genetic structure of listeria monocytogenes strains isolated from the pig and pork production chain in france". Frontiers in Microbiology, 9(1), pp.684. https://doi.org/10.3389/fmicb.2018.00684
- [6] Van Ba, H. Seo, H. W. Seong, P. N. Kang, S. M. Cho, S. H. & Kim, Y. S. et al. (2019). "The fates of microbial populations on pig carcasses during slaughtering process, on retail cuts after slaughter, and intervention efficiency of lactic acid spraying". International Journal of Food Microbiology, 294(1), pp.10-17.
- [7] Rajahram, G. S. Hameed, A. A. Menon, J. William, T. & Yeo, T. W. (2017). "Case report: two human streptococcus suis infections in borneo, sabah, malaysia". Bmc Infectious Diseases, 17(1), pp.188. https://doi.org/10.1186/s12879-017-2294-z
- [8] Zhang, L. Sun, M. Wang, Z. Li, H. Li, Y. & Li, G. et al. (2017). "Noncontact blood species identification method based on spatially resolved near-infrared transmission spectroscopy". Infrared Physics & Technology, 85(1), pp.32-38.
- [9] Grech-Angelini S & bastien, Herv \( \)
- [10] Alvarez-Pérez Sergio, Blanco José L., Astorga, R. J. Gómez-Laguna Jaime, Barrero-Dom ínguez Bel én, & Gal án-Rela?o Angela, et al. (2018). "Distribution and tracking of clostridium difficile and clostridium perfringens in a free-range pig abattoir and processing plant". Food Research International, 113(NOV.), pp.456-464. https://doi.org/10.1016/j.foodres.2018.07.040
- [11] Aan, d. T. S. I. Van, d. B. M. A. & Worrell, E. (2017). "Decarbonising meat: exploring greenhouse gas emissions in the meat sector". Energy Procedia, 123(1),pp. 353-360. https://doi.org/10.1016/j.egypro.2017.07.268
- [12] Baudon, E. G. Fourni é, Hiep, D. T. Pham, T. T. H. Duboz, R. & M. G dy, et al. (2017). "Analysis of swine movements in a province in northern vietnam and application in the design of surveillance strategies for infectious diseases". Transboundary and Emerging Diseases, 64(2),pp.1023. https://doi.org/10.1111/tbed.12380