



IMPLEMENTATION OF HAZARD ANALYSIS CRITICAL CONTROL POINT (HACCP) ON SUGARCANE ICE TRADERS IN MEDAN CITY IN 2024

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Abstract

HACCP is implemented as a systematic approach to identify, evaluate, and control potential hazards in sugarcane ice production to ensure food safety. The purpose of this research is to find out the implementation of the HACCP system carried out by sugarcane ice drink traders in Medan City in 2024. This study uses a qualitative analytical approach focused on sugarcane ice drinks sold in Medan City. The research subjects consisted of 33 sugarcane ice drink traders operating in the Medan City area. The results of the study on the implementation of HACCP on sugarcane ice traders in the city of Medan in 2024 found significant findings that the majority of sugarcane ice traders are in the productive age range of 35-49 years (48.5%), with a gender composition that is almost balanced between men (45.5%) and women (54.5%). The highest level of education is junior high school graduates (45.5%), with most traders operating for 6-10 hours per day (57.6%) and having 1-5 years of selling experience (60.6%). Traders' knowledge of hazards is still very low, only 6.06% know, and the majority are unaware of the dangers of E. coli bacteria (78.79%). However, the habit of washing hands before processing drinks is quite good (78.79%), and all traders understand the importance of clean containers before use (100%). Observations show that hygiene and sanitation are rated good by 60.6% of traders, but temperature control, supervision, and risk control still need to be improved. Documentation is also a major problem with 93.9% of traders rated as poor.

Keywords: Cane Ice, Haccp, Traders, Medan

Introduction

Hazard Analysis Critical Control Point (HACCP) is a preventive food safety supervision and control management system that is scientific, rational, and systematic with the aim of identifying and controlling hazards starting from raw materials, during the production or processing process, manufacturing, handling and use of ingredients to ensure that the food is safe when consumed (Patebon & Kendal, 2024). The HACCP system is also based on a systematic approach to anticipate the possibility of hazards during the production process by determining critical control points (CCPs) that must be closely monitored (CXC, 2020).

The basic purpose of the HACCP system is to show the location of potential hazards originating from food related to the type of food processed by food processors with the aim of protecting consumer health (Citraresmi and Putri, 2019). In principle, people have the right to expect the food they eat to be safe and suitable for consumption (CXC, 2020). There are 7 principles that must be met in implementing HACCP, namely: 1) hazard analysis. 2) identification of critical control points, 3) determination of

critical boundaries, 4) monitoring procedures, 5) corrective actions, 6) verification procedures, 7) recording procedures (Vatria, 2022).

Sugarcane juice drink is one of the drinks that is favored by most people to be consumed as a thirst quencher. This drink is a popular drink so that this drink is very easy to find in several locations on the side of the road. However, this refreshing drink can be a drink that is not good for health, if it has been contaminated by bacteria, namely during the processing of unhygienic raw materials, so there is a high risk of being contaminated with microbes that can cause diarrhea for those who drink it. Bacteria that are an indicator of contamination in these drinks are called bacteria *Coliform*, more precisely *Escherichia coli* (Yulinar et al., 2022).

Factors affecting bacterial contamination *Coliform* due to sanitation and hygiene factors. Such as the habit of washing hands, wearing aprons, the cleanliness of equipment, the cleanliness of the place of sale, and the quality of the sugarcane stalks used (Yulinar et al., 2022). For example, the selection of sugarcane raw materials used by producers is usually not guaranteed quality or when squeezing sugarcane stalks are washed using water that does not flow and washing is only done with water in a container for repeated use. In addition, a dirty and unhygienic environment can be a factor in bacterial contamination in sugarcane ice drinks, for example dust, small sales places, close to highways, and near sewers.

Based on the initial survey, the researcher made observations on the seller's behavior during the sale, including management hygiene, equipment preparation and sales environment. Starting from the hygiene of the manager, he likes to scratch his head and nose and then when selling he does not wash his hands using running water or only uses an apron. Furthermore, the sugarcane stalks that have been cleaned are placed in a burlap sack and placed under the cart without an additional base in an open state. The cane ice sellers use only one bucket to wash dirty cutlery for daily use, without soap and placed in a place where flies can be found. In addition, the sales environment is likely to be contaminated with dust from highway vehicles. The purpose of this study is to find out how the HACCP system is implemented by sugarcane ice drink traders in Medan City.

Method

The methodology of this study uses a qualitative analytical approach focused on sugarcane ice drinks sold in Medan City. The research subjects consisted of 33 sugarcane ice drink traders operating in the Medan City area. Data collection was carried out directly by the researcher using instruments in the form of interviews and questionnaires. The methods used in data collection include interviews, field observations, and distribution of questionnaires to traders.

Results

a. Characteristics of Informants

The characteristics of the informants in this study can be described as follows: the informants are 33 people.

Table 1. Characteristics of Informants

Variable	Sum	Percentage(%)
Age		
20-34 years old	7	21.2
35-49 years old	16	48.5
50-64 years old	9	27.3
>65 years	1	3.0
Gender		
Man	15	45.5
Woman	18	54.5
Education		
SD	6	18.2
SMP	15	45.5
SMA	11	33.3
Sarjana	1	3.0
Operating Hours		
1-5 jam	10	30.3
6-10 jam	19	57.6
11-15 jam	4	12.1
Long Selling		
1-5 years	20	60.6
6-10 years	9	27.3
11-15 years	1	3.0
16-20 years	3	9.1
Total	33	100

The majority of respondents were in the age range of 35-49 years (48.5%), which shows that the productive age group dominates this activity. The 20-34 age group covered 21.2% of the total respondents, while respondents aged 50-64 reached 27.3%, and only 3.0% were over 65 years old. By gender, the composition was almost balanced with 45.5% males and 54.5% females, indicating significant involvement of both genders in HACCP-related activities. In terms of education, the majority of respondents have a junior high school education level (45.5%), followed by high school graduates (33.3%), elementary school graduates (18.2%), and only 3.0% are bachelor's degree graduates. The most common operating time is 6-10 hours per day (57.6%), followed by 1-5 hours (30.3%) and 11-15 hours (12.1%). Most respondents have 1-5 years of selling experience (60.6%), while the rest have 6-10 years of selling experience (27.3%), 16-20 years (9.1%), and 11-15 years (3.0%).

b. Interview Results

Table 2. Interview Results

Variable	Sum	Percentage
Knowledge of hazards		
Don't Know	31	93.94
Know	2	6.06
Knowledge of E.Coli Bacteria		
Don't Know	26	78.79
Know	7	21.21
Diseases caused by E.Coli Bacteria		
Don't Know	20	60.61
Know	13	39.39
Washing hands before handling drinks		
Not implemented	7	21.21
Implemented	26	78.79
Benefits of hand washing		
Don't Know	0	0
Know	33	100
Water use when washing appliances		
Repetitive	16	48.48
Running Water	17	51.52
Water in a clean state		
Not sure	4	12.12
Believe	29	87.88
Benefits of clean containers before use		
Don't Know	0	0
Know	33	100
Sneezing contains disease		
Don't Know	1	3.03
Know	32	96.97
Are sugarcane stalks well managed		
No	0	0
Already	33	100
Good way of serving		
Don't Know	0	0
Know	33	100
Total	33	100

Based on the results of interviews about knowledge about Hazard, the results of respondents who knew about Hazard were 2 people with a percentage of 6.06% and 31 respondents who did not know with a percentage of 93.94%. The results of interviews from knowledge of E coli bacteria were obtained by 7 respondents who knew about it with a percentage of 21.21%, and respondents who did not know as many as 26 people with a percentage of 78.79%. The results of interviews about knowledge of diseases caused by e coli bacteria were obtained from 13 respondents who knew about diseases caused by e coli bacteria with a percentage of 39.39%. Meanwhile, there are 20 people who do not know with a percentage of 60.61%. The results of interviews regarding the habit of washing hands before processing drinks were obtained from 26 respondents who washed their hands before processing drinks with a percentage of 78.79% and respondents who did not wash their hands before processing drinks as many as 7 people with a percentage of 21.21%. The results of interviews about knowledge about the

benefits of hand washing were obtained from 33 respondents who knew with a percentage of 100% and respondents who did not know as many as 0 people with a percentage of 0%.

The results of interviews regarding the habit of using water when washing equipment were obtained from 16 respondents who used water repeatedly with a percentage of 48.4% and respondents who used running water as many as 17 people with a percentage of 51.5%. The results of interviews on knowledge about clean water were known that 29 people or 87.88% believed that clean water could cause disease. Meanwhile, 4 people or 12.12% were unsure whether clean water could cause disease.

The results of the interview on Knowledge about the Benefits of Clean Containers Before Use were known that 33 people or 100% knew the benefits of using clean containers before use. Meanwhile, 0 people or 0% do not know the benefits of using clean containers before use. The results of interviews about knowledge about gasoline containing diseases were known that 32 people or 96.97% of people knew that sneezing could contain disease as a whole. Meanwhile, 1 person or 3.03% of people do not know that sneezing can contain diseases. The results of the interview regarding the processing of unused sugarcane stalks were known that all traders who were used as respondents processed unused sugarcane stalks properly as many as 33 people or 100% and none of them processed it poorly with zero people or 0%. The results of the interview regarding how to serve cane ice, the result was that all respondents knew how to serve good cane ice totaling 33 respondents or 100% and there were no respondents who did not know how to serve good cane ice

c. Observation Results

Table 3. Overview of hygiene and sanitation, storage and serving, temperature control, supervision and control, risk control and documentation

Variable	Sum	Percentage
Hygiene and Sanitation		
Not Good	13	39.4
Good	20	60.6
Storage and Serving		
Not Good	8	24.2
Good	25	75.8
Temperature Control		
Not Good	21	63.6
Good	12	36.4
Supervision and Control		
Not Good	26	78.8
Good	7	21.2
Risk Control		
Not Good	25	75.8
Good	8	24.2
Documentation		
Not Good	31	93.9
Good	2	6.1
Total	33	100

Based on the table above, as many as 60.6% of respondents have an assessment that the hygiene and sanitation conditions are good, while the other 39.4% have a poor assessment. The assessment of storage and serving showed that 75.8% of respondents had a good assessment, and only 24.2% had a poor assessment. The temperature control condition received a good assessment from 36.4% of the

respondents, but 63.6% had a poor assessment. Supervision and control had a good assessment by 21.2% of respondents, while 78.8% had a poor assessment. In terms of risk control, 24.2% of respondents had a good assessment, and 75.8% had a poor assessment. Documentation is the aspect with the lowest assessment, where 93.9% of respondents have a poor assessment and only 6.1% have a good assessment.

Discussion

Based on the results of the research conducted by direct observation of traders on good hygiene and sanitation, 20 people were found to have good hygiene and sanitation, while 13 people had poor hygiene and sanitation.

This research is in line with research conducted by (Djasmi et al., 2015) that most sugarcane juice beverage sellers get poor scores, where traders do not behave cleanly, seller hygiene and environmental sanitation that is not clean allows sugarcane drinks to be contaminated by pathogenic bacteria.

Based on the results of the research conducted by direct observation of traders on storage and presentation, it was found that 25 people had done good storage and presentation, while 8 people had not done good storage and presentation.

Based on the results of the study, the researcher is of the opinion that product safety against hazards can occur during production. Factors that can affect are poor personal hygiene, in addition to the lack of cleanliness of the handler will cause the quality of orange ice to worsen or the presence of more Coliform bacteria.

This research is in line with the research conducted by (Widaningrum & Winarti, 2007) At the packaging stage there are physical hazards and microbiological hazards that need to be constantly observed by packaging operators. Physical hazards can come from dust and air that gets into the cider products before they are packaged, while microbiological hazards can be patulins from mold spores that are still alive after the boiling process. The cider should be perfectly packed; No leaks, defects or damage after the product is bottled. This stage becomes the CCP.

It can be concluded that in the process of serving such as, glasses and other containers have different functions and should not be mixed. So that it is not easily cross-contaminated. The equipment used must not be damaged, for example rusty, cracked and does not cause pollution

Researcher's opinion This is not in accordance with the Ministry of Health of the Republic of Indonesia No. 942/Menkes/SK/VII/2003 article (8) which states that the food and snacks served must be in a clean and safe place/tool for health. The presentation must meet the requirements, namely free from contamination, clean and closed, so as to prevent the entry of pollution.

Based on the results of research conducted by direct observation of traders on temperature control, it was found that 21 traders had poor temperature control and 12 traders had good temperature control.

Judging from the sales location which is on the side of the road and next to an open ditch so that it is easily contaminated with dust, smoke and other pollution. Poor sanitation facilities can be seen from the way of washing that is used repeatedly, not in running water, and is very limited. Trash cans that only use small plastic, some even do not have trash cans. So that the rest of the drink is thrown into the ditch near the seller.

From the research of Atmiati (2012), which states that water is closely related to food quality because water plays a role in the processing process. Water that is used repeatedly can become a place of pollution. So that equipment and food washed with water do not become clean but become a gathering place for disease germs. The trash cans used should be closed and covered with plastic, so that they do not cause odors and do not bring flies to the trash can. Flies are nesting places for bacteria,

which are found on their bodies and legs. So that it can cause the factor of contamination of a food/drink. In addition, flies also interfere with comfort, spoil the scenery so that it looks unclean.

In the Ministry of Health of the Republic of Indonesia No. 942/Menkes/SK/VII/2003 in chapter V article 12, it is explained that snack food is sold with the means of hawking, the construction must be made in such a way that it can be protected from pollution. The construction of hawker facilities referred to in paragraph (1) must meet the requirements, namely easy to clean, available places for clean water, food storage areas, equipment storage areas, equipment washing places, foodstuffs, and garbage cans. When peddling food, the requirements referred to in paragraph (2) must be met, and avoid dust and other pollution.

Based on the results of the research conducted by direct observation of traders on Monitoring or Monitoring, it was found that 26 traders had poor supervision and risk control and 7 good traders.

This research is in line with research conducted by Prasetyanto, H. (2018). Based on the results of interviews and observations conducted by researchers, Hyatt Regency Yogyakarta has been monitoring every day and in every process. The Hygiene Officer is tasked with monitoring the results carried out in each outlet that implements CCP. The monitoring of the results of this monitoring aims so that if there is a deviation, immediate corrective action can be taken.

Based on the results of the study, the researcher argues that monitoring or monitoring on CCP is to ensure that the critical limit is met. If the critical limits of a CCP have been established, then monitoring of those critical limits must be implemented. Monitoring procedures include what will be monitored, who is assigned to monitor, when monitoring is carried out, where monitoring is carried out, and how a monitoring is carried out.

Based on the results of the research conducted by direct observation of traders on risk control, 25 traders with poor risk control and 8 traders with good risk control were found

Based on the results of research conducted through direct observation to determine critical control points (CCPs), the control steps that can be applied are that the handler must know where the bacteria can come from. For example, from less clean environmental factors, air, water, soil, dust can be contaminated by pathogenic bacteria. So that the handler must pay more attention to cleanliness both in terms of processing and serving.

In accordance with Notoadmojo's theory (2011), knowledge about health includes everything that is known about maintaining health. Such as knowing infectious and non-communicable diseases. The result of ignorance of knowledge can be one of the factors that cause the presence of bacteria on a food/drink.

Based on the results of the research conducted by direct observation of traders on documentation, 31 traders were not qualified and 2 traders were qualified when doing documentation.

From the results of observations carried out according to the researcher, judging from the raw materials, raw material storage, location, machinery and equipment to the presentation of the seller is still careless in paying attention to the cleanliness of the sugarcane stalks themselves. Because it is left in the open, not in a state covered with plastic, the greatest possibility of dust contamination and if the sugarcane stalks themselves are not exhausted, they use it to sell the next day or for days. According to researchers, sugarcane stalks that are not used up at that time should also not be used for days because they can reduce the freshness of the sugarcane ice.

From the results of the observations carried out according to the researcher, the location should be far from pollution, such as open ditches and puddles. Because it can allow contamination. Furthermore, judging from the sugarcane ice squeeze machine, according to the researcher, from the observation results, traders do not clean the grinding machine after squeezing the sugarcane stalks that will be served to buyers, therefore, according to the researcher, traders must pay more attention to the condition of the sugarcane stalk squeeze machine because if it is not cleaned after squeezing, it can trigger the arrival of fly vectors that land so that it is likely to be contaminated by bacteria.

This research is in line with research conducted by (Estiasih & Ahmadi, 2018), The application of quality assurance includes the implementation of GMP and HACCP. Fulfillment of prerequisites in 18 GMP scopes has been carried out. Although it cannot be perfect, most of the GMP prerequisites have been met. Improvements are continuously made to meet the scope of GMP. GMP is a prerequisite for HACCP. In the context of HACCP certification, SMEs DIA has tried to implement 7 HACCP principles even though some principles related to CCP cannot be implemented because the production process of instant ginger drinks does not identify CCP. The results of the HACCP audit show the need for a number of improvements. These improvements have been made so that IKM DIA has been successfully HACCP certified.

Researcher's opinion This is not in accordance with the Ministry of Health of the Republic of Indonesia No. 942/Menkes/SK/VII/2003 article (8) which states that the food and snacks served must be in a clean and safe place/tool for health. The presentation must meet the requirements, namely free from contamination, clean and closed, so as to prevent the entry of pollution

Based on the results of research conducted by direct observation of sugarcane ice traders related to HACCP (Hazard Analysis Critical Control Point), information was obtained that the safety risk of sugarcane ice products lies in the knowledge and process of processing sugarcane into sugarcane juice. These factors include knowledge about hazards, knowledge about E. Coli bacteria, personal hygiene by washing hands before processing ice cane, and the use of water to wash equipment that is used repeatedly. This is a potential for decreasing the quality of sugarcane ice and the discovery of disease-causing bacteria. Control steps that can be taken to overcome the above factors are, increasing traders' knowledge about the importance of personal hygiene in processing sugarcane ice, so that traders can pay more attention to cleanliness both personally and during processing.

This research is in accordance with a previous study conducted by Sri Sulemi regarding Hazard Analysis Critical Control Point (Haccp) on Ice Cane Traders on Jalan Datuk Setia Maharaja Pekanbaru in 2020 which stated that most ice cane traders get poor scores from personal hygiene and knowledge that allows ice cane to be contaminated by disease-causing bacteria.

In this study, sanitary hygiene as a potential lack of quality of sugarcane drinks can be influenced by several things, namely:

1. Knowledge of Hazard

Based on the results of interviews about knowledge about Hazard, the results of respondents who knew about Hazard were obtained as many as 2 people with a percentage of 6.06% and respondents who did not know as many as 31 people with a percentage of 93.94% Meanwhile, according to the Regulation of the Minister of Health No. 942 (2010) concerning drinking water quality requirements, drinking water is those that go through a treatment process or without treatment that meets health requirements and can be drunk immediately. The water used must be of high quality. Clear, odorless, colorless, free of organisms, which live in water that can harm human health.

2. Knowledge of E.Coli bacteria

Based on the results of interviews about knowledge about E coli bacteria, 7 respondents who knew about it with a percentage of 21.21%, and respondents who did not know as many as 26 people with a percentage of 78.79% according to research conducted by (Destia Aufani, 2023) microbial contamination in sugarcane water has a great effect on health so that it can cause various diseases. Various bacteria of the genus Escherichia, Salmonella, Klebsiella, Shigella, and Enterobacter which are one of the indicators of waste pollution and unfavorable conditions for food and beverages. The results obtained from 70 samples were 8 positive samples of Enterobacter aerogenes bacteria, 4 positive samples of Salmonella typhi bacteria, 14 positive samples of Klebsiella pneumonia, 6 positive samples of Shigella dysenteriae, and 15 positive samples of Escherichia coli.

3. Knowledge About Diseases Caused by E.Coli bacteria

Based on the results of interviews about knowledge of diseases caused by e coli bacteria, 20 respondents who did not know about it were obtained with a percentage of 60.61%. As well as those who knew about diseases caused by e coli bacteria as many as 13 people with a percentage of 39.39%. According to a study conducted by Halim (2019) where the results of 50 samples of acute diabetic patients were taken, the causative microorganism was E. coli as many as 25 (50%) and followed by Coccus Gram negative 6 samples, Klebsiella sp 6 samples, Staphylococcus hemoliticus 1 sample, Yersinis pseudotuberculosis 1 sample, Streptococcus hemoliticus 1 sample, Providencia vettger 1 sample, Proteus stuartii 1 sample, Streptococcus sp 1 sample and Pseudomonas sp 1 sample, while 7 samples did not get germ growth.

4. Washing Your Hands Before Handling Drinks

Based on the results of interviews regarding the habit of washing hands before processing drinks, the results of respondents who washed their hands before processing drinks were obtained as many as 26 people with a percentage of 78.79% and respondents who did not wash their hands before processing drinks as many as 7 people with a percentage of 21.21%. The results of interviews with sugarcane ice traders showed that 26 people carried out hygiene practices, namely washing their hands before processing sugarcane ice drinks. According to the World Health Organization (WHO) 2020, Hand washing is not only an effective defense against the spread of serious infections and diseases, but it is also a very simple and easy-to-do thing that can make a big difference. According to the Ministry of Health, in 2018 improper handwashing behavior can be a way for microorganisms to enter the body so that diseases, diarrhea, can be contracted (Tsinallah et al., 2022).

5. Benefits of hand washing

Based on the results of interviews about knowledge about the benefits of hand washing, the results of respondents who knew as many as 33 people with a percentage of 100% and respondents who did not know as many as 0 people with a percentage of 0%.

From the results of observations conducted to 33 ice cane traders, from the results of interviews, as many as 33 people did not know the benefits of washing their hands. That the factors that affect the contamination of Coliform bacteria are due to sanitary and hygienic factors. Such as the habit of washing hands, wearing aprons, the cleanliness of equipment, the cleanliness of the place of sale, and the quality of the sugarcane stalks used. Thus, to keep sugarcane juice drinks free from Coliform bacteria, counseling and training from the local Health Office is needed. The counseling and training were given to beverage sellers on the roadside, especially sugarcane ice drink sellers. To provide education about hygiene practices and the dangers of Eschericia coli bacteria.

Human and animal feces are a source of disease-causing germs such as E. coli or Salmonella. These bacteria can cause various diseases of the digestive tract, respiratory infections, and other infections. Dirty hands are the source of E-Coli and Salmonella germs. Washing your hands with soap and running water is a way that can eliminate disease-causing germs on your hands. (Enung Nurjannah, 2022). The purpose of washing hands is to protect hands so that they are always clean. (Tsinallah et al., 2022).

6. Water Use When Washing Equipment

Based on the results of interviews regarding the habit of using water when washing equipment, the results were obtained from 16 respondents who used water repeatedly with a percentage of 48.4% and respondents who used running water as many as 17 people with a percentage of 51.5%.

Equipment is an important factor that greatly affects the presence or absence of E.Coli bacteria in ice cane. In the observation results, there are still many equipment used by traders that are not washed

with running water, it's just that they use the water in the bucket to wash all the equipment, such as glasses that are washed repeatedly until the water in the bucket looks cloudy. Serving equipment is one of the important ones that greatly affects the presence or absence of E.Coli bacteria in sugarcane ice drinks. Fardiaz (1993) stated that in several stages of the processing process can sometimes increase the number and type of bacteria present in food can also sometimes increase, for example in the case of contamination of the equipment used, storage in conditions that allow the growth of microbes, and others.

According to the Minister of Health Regulation No. 942 concerning food sanitation, equipment used to process and serve food must be in accordance with its designation and meet sanitary hygiene requirements, equipment that has been used is washed with clean water and soap, then dried with a dryer/clean wipe then the clean equipment is stored in a pollution-free place, it is prohibited to reuse equipment designed for single use only.

7. Water Used in Clean Condition

Based on the results of interviews about knowledge about clean water, it was known that 29 people or 87.88% were convinced that clean water could cause disease and 4 people or 12.12% were not sure whether clean water could cause disease. In the Regulation of the Minister of Health No. 32 of 2017, it is stated that what is meant by clean water is the Environmental Health Quality Standard for water media for sanitary hygiene purposes including physical, biological, and chemical parameters which can be mandatory parameters and additional parameters of water for sanitary hygiene purposes are used to maintain personal hygiene such as bathing and toothbrushing, as well as for the washing of foodstuffs, tableware, and clothing. In addition, water for sanitary hygiene purposes can be used as raw water for drinking water

8. Knowledge of the Benefits of Clean Containers Before Use

Based on the results of interviews on Knowledge about the Benefits of Clean Containers before use, it is known that 33 people or 100% know the benefits of using clean containers before use and 0 people or 0% do not know the benefits of using clean containers before use. Knowledge about the benefits of clean containers before use is very important in the cane ice business. Dirty containers can be a source of dangerous diseases and should be avoided. Sugarcane ice sellers must ensure that the containers are always clean and guaranteed to be clean to avoid the spread of disease. Employees need to have basic knowledge of food, sanitation, and personal hygiene to realize food safety and public health.

9. Knowledge of Sneezing Contains Disease

Based on the results of interviews about knowledge about gasoline containing diseases, it was known that 32 people or 96.97% of people knew that sneezing could contain diseases, overall and 1 person 3.03% of people did not know that sneezing could contain diseases. These results showed that most respondents had good knowledge about gasoline containing diseases, but there were some people who did not have the same knowledge. As such, it is important to raise public awareness about the dangers of gasoline and the importance of using gasoline safely and in a balanced manner.

10. Processing of Sugarcane Stem Residue (Bagasse)

Based on the results of interviews regarding the processing of unused sugarcane stalks, it is known that all traders who were used as respondents processed unused sugarcane stalks properly as many as 33 people or (100%) and none of them processed them poorly with zero people or (0%).

The processing of the remaining sugarcane stalks that are no longer used as pulp is carried out by throwing them into the garbage cans that have been provided by their respective traders and later

will be disposed of in the garbage disposal provided by the local government. Not only that, some traders will give the rest of the sugarcane stalks to farmers as food for their animals. Thus, bagasse is not wasted carelessly.

In the processing of sugarcane stalk residues, all traders throw the bagasse into the trash and not carelessly. If disposed of carelessly, it will be feared that it will cause diseases and pollute the environment. Good bagasse processing is very important, because bagasse is one of the wastes that is easy to obtain and find in the community.

11. Knowledge of How to Serve Ice Cane

Based on the results of interviews about how to serve sugarcane ice, it was found that all respondents knew how to serve good sugarcane ice totaling 33 respondents or (100%) and there were no respondents who did not know how to serve sugarcane ice well.

The presentation of sugarcane ice was carried out by the respondents using plastic and rewashed glasses. For the use of plastic as a place to serve ice sugarcane is new plastic and the glass used is always washed with water every time it is finished by other buyers. However, not all respondents use running water to wash the glasses used by buyers. It was found that as many as 16 respondents or (48.48%) used water repeatedly in the washing process. This can have a bad effect on health if the water used is not clean because it is used repeatedly. This is a risk factor for causing disease for buyers.

Conclusion

Based on the results of research on the implementation of HACCP on sugarcane ice traders in the city of Medan in 2024, there are several significant findings. The majority of ice sugarcane traders are in the productive age range of 35-49 years (48.5%), with the gender composition almost balanced between men (45.5%) and women (54.5%). The highest level of education is junior high school graduates (45.5%), with most traders operating for 6-10 hours per day (57.6%) and having 1-5 years of selling experience (60.6%). Traders' knowledge of hazards is still very low, only 6.06% know, and the majority are unaware of the dangers of E. coli bacteria (78.79%). However, the habit of washing hands before processing drinks is quite good (78.79%), and all traders understand the importance of clean containers before use (100%). Observations show that hygiene and sanitation are rated good by 60.6% of traders, but temperature control, supervision, and risk control still need to be improved. Documentation is also a major problem with 93.9% of traders rated as poor. In conclusion, increasing traders' knowledge and awareness of HACCP and hygiene practices is indispensable to improve the quality and safety of the sugarcane ice products they sell.

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