Survey Report

for identification of the local Hungarian needs

regarding the control of food risks and food safety

HUNGARY

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This document contains the results of the survey with Hungarian small and medium food enterprises. Subject: production-quality training (hygiene / traceability / safety) WINDAIR.

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APPENDIX

1. SUMMARY

This report contains the results of analysis of questionnaires completed by 100 Hungarian food-processing enterprises working in the field of meat, dairy, deep-freeze, canning, mill, baking, alcoholic drink, pastry, beverage and confectionery industries.

The rate of coverage was quite high, almost complete, considering that the companies participating in the survey are from 18 counties (there are a total of 19 counties in Hungary).

A comprehensive program was the basis of the report comprising interviews / questionnaires with company leaders, assistant managers, marketing directors and production directors.

The task was very difficult as many companies were unwilling to answer the questionnaires very much.

The level of cooperation was different in the specific companies.

Accordingly, medium companies want to expand and answered the questions regarding the food risk control and food safety with greater enthusiasm while the smallest companies pay less attention to answer the questionnaire mainly due to the lack of time (and motivation).

Profile of answerers:

All enterprises participating in this survey are working in the food production industry (100%).

Size of the enterprises participating in the survey:

- Majority of the enterprises (46%) are medium companies (51-250 persons),
- 26% of answerers are small enterprises (11-50 persons),
- 22% of answerers are large enterprises (>250 persons),
- 7 % of answerers are micro enterprises (1-10 persons).

2. INTRODUCTION

Food industrial companies must operate based on the principles of the food safety management system, the HACCP (Hazard Analysis Critical Control Point), and shall ensure that the food providers fulfil their tasks in a trained and/or supervised manner.

Pursuant to the law of the European Union: „Food manufacturers shall identify all steps of their activities that are critical from the aspect of food safety and shall ensure identification, implementation, maintenance and supervision of the appropriate safety procedures based on the principles used for development of the HACCP system."

The food safety management system is based on the principles of HACCP and the food hygiene training has demonstrated to the basic step for the development of food safety.

Principles and steps of implementation of HACCP.

1. Complete performance of risk analysis: prepare a list of the points of the process at which any level and types of hazards may occur. This is followed by the evaluation of risk of hazards and preventive measures.

2. Of the potentially hazardous points, determination of critical control points for the entire process.

3. Establishment of interventional limits at the analyzed approved critical control points.

4. Development of the appropriate system of the critical control points, determination of the planned tests and monitoring, development of the rules of processing of the obtained data.

5. Establishment of interventional, corrective actions when the critical limits values are exceeded.

6. Development of a comprehensive documentation system and procedures.

7. Implementation of the planned system and training of staff.

8. Implementation of a procedure for evaluation, verification of HACCP and continuous, regular control of system operation.

Advantages of HACCP:

Advantages for the manufacturers of products:

- the controllability of the manufacturing process improves
- a stable basis is established for development of quality management systems
- assists systematic and consistent work
- increase of customers' trust
- provide protection in product liability lawsuits
- it is applicable to the entire food chain
- constant improvement in accordance with the increasing customer needs.

Advantages for the customers:

- safety of product consumption is improved
- protection from material and health damages
- makes the suppliers controllable
- higher level satisfaction of the needs

In order the better understand the current condition, situation of the Hungarian enterprises, the following brief information should be noted henceforward.

In 2003 more than 80% of the Hungarian food industrial enterprises was micro enterprises (less than 10 employees), 17% was small (11-50 persons) and medium (51-250 persons), and only 1.2% was large enterprises (more than 250 employees).

The number of employees in the food industry constantly decreases; while in 2004 115,879 persons worked in this sector, in 2007 this figure was only 101,496 persons.

In 2003, 7847 enterprises dealt with food and drink industrial production as main activity. In 2004, this figure decreased by 250-270 enterprises due to non-compliance to hygienic standards.

Compliance with the European standards (including ISO and HACCP system) is a great problem for food industrial enterprises, and significant investments are needed in the field of development and modernization.

3. General considerations if the Hungarian food industry:

Situation of the Hungarian meat industry

In 2005 the value of production of the Hungarian food and drink industry exceeded HUF 2250 billion which is 14.6% of the entire Hungarian industrial production. Thus, it is the second largest industry in the country.
The share from the production value of the enterprises operating in the food industry according to TEÁOR is 93.2%. Within other national economical industries the share of manufacturing of food products by commercial enterprises is 5.8%, and 1% for agricultural and other enterprises.
The industry basically processes Hungarian raw materials and purchases 75% of the agricultural production.
The activity structure of food industry is basically adapted to the features of the Hungarian agriculture, its utilization as well as the structure of food consumption.

Activity structure of food industry in Hungary is as follows:

Activities	Share from the production (%)
Meat, poultry, fish, game processing	25.3
Fruit, vegetable, potato processing	10.6
Manufacturing of dairy products, ice cream	13.5
Manufacturing of vegetable oils, fats, margarine	3.6
Manufacturing of mill industrial and starch products	5.8
Manufacturing of feed (for livestock and pets)	7.1
Manufacturing of drinks (wine, champagne, beer, alcoholic drinks)	16.5
Manufacturing of products, not otherwise specified (sugar, bakery, pastry, confectionery, yeast, snack, soup powder, flavours, spices, coffee, tea, etc.)	17.6
Total:	**100.0**

The concentration of Hungarian food industry considering the net revenue is high; 10.1% of the enterprises (302 companies) represent 85% of the net revenue.

Food industry sells 80% of its production in Hungary.

Structure of Hungarian sales:

- For use in production 38 %
  (agriculture, food industry, other branches)
- For population consumption 62 %
  (trading, catering, public utilities)

Within the population sales the common rate of retail and wholesale sales is 80%.
In the retail trading in 2003 the turnover of food and drink industrial products at shop price is approximately HUF 1800 billion, the share of products manufactured in Hungary was 90%.
In the majority of EU member states 78% of population food purchases are from domestic production and this has remained nearly unchanged for years. The domestic share is likely to be decreased also in Hungary and will be stopped around 80%.
The interest validation capabilities of food industrial companies are weak towards the food trading. The 12 largest trading and investment companies selling foodstuff represents 85% of the domestic purchase value of the total food products.

The export of food industrial products achieved EUR 1.9 billion and the export surplus was EUR 900 million in 2003.
63% of the exported products were delivered into EU member states.

The quality of Hungarian food industrial products satisfies the needs of solvent demands of customers. Considering the food safety requirements, the Hungarian situation is also appropriate, like mean in EU.

The increase of Hungarian economy is decreasing year-by-year, in accordance with the tendencies characteristic to the world economy.

The increase of gross domestic products compared to the previous year:

- 4.6% in 2004,
- 4.1 % in 2005,
- 3.9 % in 2006

In 2005 and 2006 food industry already operated completely in accordance with the rules of EU market and last but not least with the system of common agricultural policy.

These two effects increasing the import competition potentiated the Hungarian Government's measures for reducing the demands for products for daily consumption as well as the sounding but powerless food safety protective measures and the repeated headway of grey, black economy in the food market.

The adaptation was also not assisted by the fact that the Hungarian agricultural political practice – despite the very much increased community agricultural supports – maintains a price level exceeding the solvent demand thereby decreasing the chance for efficient response to the import competition.

During the two years following the accession the consumers' power of food trading did not decrease even a little bit; the utilization, „abuse" of this power became usual i.e. the interest validation capability of the domestic suppliers further decreased.

For example food trading apply unreasonably negative discrimination for the domestic manufacturers regarding the food safety requirements for the supplier channels.

The situation in the food market continues to be characterized by the non-restricted market competition developed by the accession, the increased unregulated competitor fighting and the increasing need for investments in relation to food safety and environmental protection.

The trading companies that can better utilize non-regulation as well as the price reducing import products many times with lower quality due to the currency policy of the Hungarian National Bank appeared in the Hungarian market in great numbers and the loss of domestic market share of the Hungarian production was accelerated.

Although despite the currency policy the export of this industry increases year-by-year, this increase is no table to compensate the loss of market share. The response to these challenges was not assisted either by the fact that the food and drink industry lost its income producing capabilities in 2003-2004 due to external reasons and the situation could not be improved even since then (in 2005-2006).

Following the significant reduction in 2004 the production in meat processing and conservation increased in 2005, but 2006 shows significant reduction again. An inverse change can be observed in poultry processing, fruit-vegetable processing, confectionery and feed production and in the wine industry. There is continuous fallback in mill and dairy industry.
Beer, beverage and mineral water industry as well ass baking and alcoholic drink industry have increased their production for years.

Thus, by the accession the industry has „exhausted", lost its reserve resources required for efficient competition.

Export has been a successful area of the Hungarian food industry for years.
However, the processes underwent essential changes and it is to be feared that Hungary will become a net food industrial product importer within a medium period, and the faith of light industry will be extended also to food industry.

4. Situation and competitiveness of the Hungarian meat industry

The meat industry has not survived the crisis yet; in the first eight months of this year a total of 67 meat industrial, trading and processing companies were affected by final settlement procedure and 114 by liquidation.

The largest collapsed meat industrial, trading and processing companies include:
Herz Szalámi Gyár Zrt, Aba Élelmiszeripari és Kereskedelmi Zrt, Hunnia Húsipari Termékgyártó Kft, Zalabaromfi Szárnyas Húsfeldolgozó Zrt, Meatropolis Kft, Ko-Bor Hús Kft, Pegano Pig Sertéstartó és Kereskedelmi Kft, Branau 2002 Mezőgazdasági-, Termelő és Szolgáltató Kft as well as Buda Food Baromfitenyésztő Kft.
The social-economic changes of the recent years had great impact on in the meat sector as well resulting in significant deterioration of economic positions of the meat industry. Maintenance and increase of the competitiveness of the domestic meat

sector is of strategic importance for keeping its role in the food industry and national economy.

Competitive advantages and disadvantages of meat industry:

Our competitive advantages	Our competitive disadvantages
- great production traditions	- decreasing livestock
- appropriate food production background	- low capacity utilization
- capacities corresponding to the level of developed countries	- lack of synchronization between fat stock production and processing
- relatively inexpensive workforce	- lack of specified trainings
- high level of qualification	- lack of capital in the companies
- competition in the domestic market	- low lean meat yield
- export oriented commercial activity	- lack of government level industrial strategy
- market experiences - favourable image of specific Hungarian products	- inappropriate level of agricultural information and consultation system

The most important actions to be taken by the meat industry to maintain and improve our competitive advantages:

1. Today the raw material supply of meat industry cannot be considered stable due to the great fallback and fluctuation in fat stock production. The most important tasks of the domestic animal production to provide raw material in appropriate quantity and quality are as follows:

- Prevention of further decrease in the livestock.
- Improvement of quality by development of biological fundaments of animal production.
- Improvement of the existing animal keeping technologies and feeding procedures for increasing lean meat yield.
- Emphasizing research and consultation activities and development of the information system.
- Stabilization of the economic conditions of agricultural production, improvement of the interest system by the share of producers from the export support.

2. By environmental considerations coming to the front also give increased requirements for the producers:

- animal production (manure management)
- meat industry (management of hazardous wastes)

3. In the meat industry the level of qualification and inexpensive workforce has been a comparative advantage for a long time. Today the workforce is considered as less

comparative advantage since the living workforce is burdened by significant taxes and deductions.

In the changing economic and market conditions the meat industrial companies specify increasingly strict requirements for the workforce.
I think the training of professionals having convertible professional knowledge can be realized in the intermediate level education in the form of professional group.

In the higher education greater attention should be paid to the teaching of entrepreneur studies due to the advancement of small and medium enterprises.

In the development of the educational system, the companies' needs should be considered and the reasonable use and distribution of the existing workforce is also a fundamental condition of utilization of our competitive advantages arising from the level of human resources.

Today there have been excellent technologies, machines and instruments in the world and the companies having sufficient financial resources can purchase and efficiently operate such equipment.

In the developed countries the companies emphasize the training and improvement of human resources since it becomes the determinant factor of competitiveness. In the future is is also expected in Hungary that the human resource management will come to the front in meat and other industries as well.

4. Regarding technical-technological quality Hungarian meat industrial companies are characterized by heterogeneity. As a result of investments and reconstruction performed in the last decades we have excessive capacities.

Improvement of technical-technological culture of production requires that we utilize the means available for research and development in the meat industry more deliberately. Only product of meat industrial companies ready for product innovation and having rapid adaptive capacity will be competitive in the foreign markets.

5. In the recent years utilization of pig and cattle slaughtering capacity has greatly decreased and the competitiveness was further reduced by the long term lack of synchronization between the field location of fat stock production and processing.

In the European Union gradual concentration of animal production can be observed.

6. The tasks mentioned above and will be mentioned henceforward can primarily be implemented by meat industrial companies with strong financial muscles; thus, the opportunities to expand the corporate financial resources should also be re-considered in the future. Stock exchange participation of meat industrial companies may have significant role in this process.

7. The increase in the costs of meat industrial companies and the decrease in export supports have led to the reduction of revenue production of the industry.

In the domestic market the method of strategic cost analysis gained ground in the evaluation of cost condition of companies compared to their competitors. The cost calculation system of companies for the determination of complex activity-cost chain including all costs from the input acquisitions to the price paid by the consumer should be re-arranged.

8. The reduction in meat consumption is a problem in the domestic market.

Due to differentiation of consumers' demands companies can expect expansion of the markets of both the high and low price meats.

The illegal market sales became significant in the domestic market; therefore, the development and application of the tool system of the fight against the black economy are important tasks.

The nutritional knowledge of consumers should be further increased in the future, one element of which may be the development and implementation of national nutritional policy.

Today after privatization the domestic market also became international; therefore, meat industrial companies can expect similar competition as in the export markets.

9. If we want to increase the export to the EU member states in the future, we have to consider that in the European Union markets we should compete with highly supported products; thus, we can be competitive with highly processed foods or products for specific quality needs.

Due to the fullness of the market, the packaging, increasing the reliability of delivery and marketing activity (development of country, culturing site and product image) should be emphasized more to improve the export activity.

10. In the relationship of the meat industry and agriculture the thinking in final product would have to be emphasized by achieving as much income from a final product as possible; this could be implemented by partial or complete capital integration initiated by any participant of the sector.

Initiation of owners' integration by raw material producers is not possible due to the current privatization solutions since these do not allow the agricultural producers to obtain properties in the food industry. The agricultural property is quite fragmented, but regarding financial muscle meat industry is increasingly concentrated leading to a defenceless situation of the agricultural producers.

Meat industrial companies should be more aware in undertaking the role of integrators within this sector.

11. Due to the mentioned changes in meat consumption trading should pay more attention to adapt the product structure to the differentiated consumer needs in the future.

Trading companies should implement modern, customer-focused sales attitude.

12. Meat industry cannot be present in the market with competitive products without the development of the background industrial capacity and the service infrastructure to the appropriate level. Improvement of logistical infrastructure, modernization and expansion of the existing road network is of utmost importance. Agricultural information system needs further development.

13. Maintenance and increase in competitiveness of the meat industry can only be implemented by active participation of the government agencies that requires more deliberate and clear determination of the short and long term role of the meat industry in the Hungarian national economy.

14. Regarding the increase of competitiveness the development of information system is essential. Participants of this sector can only make good economic decisions based on the appropriate information.

5. Situation of the Hungarian baking industry

Within the food industry the baking industrial branch has had the greatest number of enterprises for years. The number of enterprises shows decreasing tendency and the reduction in number of producing plants is even greater.

In addition to the reduction of the number of enterprises and plants, a concentration process can also be observed.

There are 824 joint associations and approximately 520 individual enterprises operating in this branch.

The number of people employed in this industry is 21,400 persons.

77% of baking industrial enterprises employ less then 10 persons, 19% 11-50 persons, 3% 51-300 persons, and 1% more than 300 persons.

The market defencelessness of baking industrial enterprises is excessive regarding trading; particularly in relation to the hypermarkets and trading chains having 70% market share.

In the old EU member states e.g. Austria, Germany, France, 65-70% of baking industrial products is sold in the shops of baking industrial enterprises. This rate is 10% in Hungary; this is why the baking industry is a defenceless branch.

Due to the lack of financial muscle they cannot establish their own shops. Direct daily selling of fresh products is also desirable from quality, health and environmental aspects as well.

The profitability is of the baking industry continuously decreases.
The income proportional to the gross revenue of the industry in 2003 is 2.34% and in 2004 it is expected to be below 2%. This low profitability has decreased gradually from 7.4% since 1992.

The low profitability determines the basic problems of the bakery profession:

- the ability of the industry to validate prices is low,
- the industry is characterized by lack of resources:
  - in the developments,
  - in implementation of reconstructions,
  - in replacement of the vehicle fleet,
  - in the establishment of shop network,
  - in the adjustment of salaries,
  - in hygienic and environmental developments.

6. OBJECTIVES

The specific objectives of this survey include:

- Quantification of compliance with the requirements of HACCP and food hygienic training in Hungary;
- Assessments of the barriers in the implementation of food safety considerations;
- Determination of local needs in Hungary regarding food risk control and food safety.

7. METHODOLOGY

As mentioned earlier this report contains the results of analysis of questionnaires completed by 100 Hungarian food-processing companies working in the field of meat, dairy, deep-freeze, canning, mill, baking, alcoholic drink, pastry, beverage and confectionery industries.

A comprehensive program was the basis of the report comprising interviews / questionnaires with company leaders, assistant managers, marketing directors and production directors.

This report summarizes the main conclusions following the structure of the survey. The approach was to assess as much counties with various level of development as possible to obtain a comprehensive picture on the individual needs of the companies both in the highly and less developed counties.
The method can be summarized as follows:

Distribution of the tested 100 companies per counties:

County:	Number of tested companies:	County:	Number of companies:
Bács-Kiskun	14	Komárom-Esztergom	1
Baranya	1	Nógrád	-
Békés	6	Pest	25
Borsod-Abaúj-Zemplén	4	Somogy	4
Csongrád	9	Szabolcs-Szatmár-Bereg	5
Fejér	6	Tolna	1
Győr-Moson-Sopron	5	Vas	3
Hajdú-Bihar	2	Veszprém	1
Heves	8	Zala	2
Jász-Nagykun-Szolnok	3	**Total:**	**100**

The results were calculated as the percentage of the total answers.

In case of yes-or-no questions the answers can be yes or no.

The answers to the open questions were collected, categorized and quantified.

The possible answers were included in the relevant question.

Cross-correspondence was not performed since the questions were very specific and the answers had to be interpreted individually as well.

8. RESULTS

In general, the reactions of the answerers were positive.

There were some categories for which few answerers did not respond; the main reasons included the lack of time and in some cases the fear of potential inspection.

In general, the answerers included the owners, managers, leaders responsible for food safety and other responsible leaders.

In the following sections we summarize the answers we received.

- **7.1.-7.6.** -- **About the size of the answering organizations:**
  - 78% of the answering organizations are medium + small + micro enterprise employing less than 250 persons;
  - 22% of the answerers were large enterprise (>250 person).

A Knowledge of guidelines, hygienic package and legal regulations

12. What do you thing about the application of national industrial index in your company?

- 12.1.
  69% of answerers indicated that application of the guidelines gives assistance to the work.

- 12.2.
  Only **19%** thinks that the industrial guidelines could be used for the purposes of certification of the company by regular audits. There would be a list of „certified" companies that follow the guideline and this would represent a commercial advantage supported by a logo.

- 13.
  42% thinks these industrial guidelines are not known.

- 13.1.
  34% thinks the development processes of these guidelines are not known.

- 13.2.
  47% thinks the industrial companies become more organized by the guidelines.

- 13.3.
  87% thinks industrial guidelines should be distributed in broader field.

- 14.

25% participates/participated in the development of good national practical guidelines.

Community (EU) Good Hygienic Practice guidelines:

- 15.
  40% knows these guidelines.

- 16.
  31% uses Community guidelines.

17. Would you like to have this in your industry? What added value do you think would it provide for you?

- 17.1**.**
  Only **8%** would not be interested (bored).

- 17.2.
  28% thinks it would create sales opportunity and commercial advantage.
- 17.3.
  28% thinks it would make the export development of trading easier.

- 17.4.
  28% thinks it would make the export trading more uniform and transparent.

- 17.5.
  83% thinks it supports food safety, prevention of counterfeit and safe food management.

18. What do you thing about the application of EU guideline in your company?

- 18.1.
  88% thinks it may be a guideline to the work.

- 18.2.
  23% thinks that the EU community guidelines could be used for the purposes of certification of the company by regular audits. There would be a list of „certified" companies that follow the guideline and this would represent a commercial advantage supported by a logo.

- 19.
  64% thinks these EU guidelines are not known.

- 19.1.
  71% thinks the development processes of these guidelines are not known.

- 19.2.
  44% thinks these would have to be adapted to the processing industry.

- 19.3.
  82% thinks the guidelines should be distributed in broader field.

- 20.
  Only **2%** participates/participated in the development of EU community good practice guidelines.

38. How much do you feel it is required for you to know the hygienic regulation package comprising (EU) hygienic regulations (852-854/2004 EC) and Good Hygienic Practice guidelines?

- 38.1.
  Only **5%** thinks it is the task of the authority.

- 38.2.
  10% thinks this is an obligation specified by the customers.

- 38.3.
  The majority i.e. **98%** thinks this is the internal motivation of the company for quality production.

- 38.4.
  Also the majority i.e. **91%** thinks one should prepare for this for future development.

51. What do you think is not good in relation to the Hygienic package?

- 51.1.
  38% thinks it is the understandability of wording (text),

- 51.2.
  68% thinks it is the lack of practical examples,

- 51.3.
  55% thinks it is the lack of good practical guidelines,

- 51.4.
  46% thinks it is the lack of consideration of the size of company,

- 51.5.
  32% thinks it is the lack of lobby,

- 51.6.
  8% thinks it is the excessive lobby,

- 51.7.
  5% thinks it is other reasons e.g. too general.

68. What are the specific and real applications of the training of hygienic package in your organization? (What changes, modifications were made in your system?)

- 68.1.
  In **77%** new control documentation (reports),

- 68.2.
  In **55%** new procedure,

- 68.3.
  In **70%** a system developed for manufacturing processes,

- 68.4.
  54% established a quality team,

- 68.5.
  In **34%** the management system became more dynamic,

- 68.6.
  In **82%** „step-by-step" training for workers directly involved in processing, by their seniors.

- 68.7.
  In **9%** it created new customer, new market.

70. What are the demands of persons participating in the external training on the Hygienic package?

- 70.1
  In **86%** theoretical knowledge,

- 70.2.
  In **56%** building relationship with other regulatory agencies,

- 70.3.
  In **90%** exchange of experience with those already using the hygienic package

- 70.4.
  In **92%** adaptation of specific methods for solving problems

- 70.5.
  In **76%** learning the basics of food safety

- 70.6.
  In **81%** meeting with quality managers

B Commercial relationships

- 71.
  72% experienced change in the commercial requirements of their customers in the last few years, since the existence of the Hygienic package.

- 72.
  54% thinks that the difficulties of the interpretation of the Hygienic regulation package should be taught to the sellers.

C Implementation of the HACCP system

71. **How the application of HACCP system should be started? What do you think is the most difficult step?**

- 72.1.
  37% thinks it is the making of financial decisions,

- 72.2.
  21% thinks it is the building of a team,

- 72.3.
  88% thinks it is the information and motivation of people.

73. Production flow charts

- 73.1.
  96% has already has production flow chart,

- 73.2.
  95% has controlled documentations (e.g. procedures, work instructions)

74. Highest development at the level of quality

- 74.1.
  93% takes time to analyze the efficacy of a prior measure introduced

- 74.2.
  67% specifies the limitations of the planned measure,

- 74.3
  87% arranges the information of the specific (current) situation in a process prior to the new measure to assess the improvement.

75. Costs

- 75.1.
  80% prepares a budget in case of a specific action,

- 75.2.
  89% consults with colleagues or external experts.

76. Commitment of the management: who is the person initiating the development / modification?

- 76.1
  In **25%** it is the manager only,

- 76.2.
  In **78%** there is a team within the company for this purpose,

- 76.3
  In **28%** it is an external consultant.

T3.2: Period of preparation

T3.2.1: Surveyed condition

- **94%** thinks customers has quality requirements,
- **82%** analyzed the food safety risks,
- **If yes, what are these? In companies saying yes, the following answers were given:**
    - In **27%** physical, chemical, microbiological hazards, and in particular: foreign matter, allergen cross contamination, labelling errors;
    - In **13%** baking temperature and rate of oven conveyor, temperature of cooling instruments,
    - In **11%** drying, foreign matter, microbiology of the raw material, toxin, pesticide,
    - conformity of heat treatment, air-tight sealing, meat raw materials from veterinary point of view,
    - Critical and non-critical safety risks,
    - Metal detection,
    - cooling temperature, microbiological conditions, shelf-life, freedom from
    - glass, wood, metal, stone, plastic, pathogens, mould, mycotoxin, herbicide,
    - For example:
        - acceptance of living product,
        - bleeding,
        - cutting of cloaca, abdomen,
        - evaporation pre-cooling.
- **86%** already recorded non-conformity.
- **74%** identified the root cause of the problem in each phase of product development.
- **91%** has already had preventive measures to minimize deficient operation.

T3.2.2: HACCP Plan

- In **65%** they deal with all problems, there are priorities.
- **Who makes the decisions? What are the priorities?**
    - In **19%** the management,
    - In 4% there are priorities e.g. management of allergens, foreign material complaints; the decisions are made by Quality Managers, Food Safety Managers, Plant Director and regional Food Safety Management,

- The decision is made by the QA Manager: foreign material mycotoxin,
- The decision is made by the QA Manager; critical safety risks are of top priority,
- The decision is made by the director: pH, physical foreign particle, HACCP team,
- Production manager, technologist for all hazards,
- HACCP team. Decision on priorities: hazard analysis by objective, scoring risk assessment,
- HACCP team, Food safety risk – physical hazards,
- The decision if made by the HACCP committee and the priorities are as follows: Parameters according to microbiological, physical and organoleptic requirements,
- There are companies not having priorities,

- Only **1%** of answerers ranked the quality as more important than food safety.
- **88%** stated that food safety is more important then quality.
- **96%** has the appropriate equipment for the control.
- **94%** has the appropriate equipment for the supervision.
- **92%** has the appropriate human resources for control and supervision,
- In **96%** the responsible persons participated in specific training.
- **92%** has written documents available (maintenance plan, hygienic program, etc.)

T3.2.3: Organisational structure

- In **92%** the senior management was involved in the operation of the quality management system.
- **What is the composition of the quality team? (number, position)**

  - in **15%** of answerers it consists of 3 persons: Plant director, shift manager and quality manager,
  - In **12%** quality checker, product developer, hygiene technician, production manager,
  - In **6%** it consists of 5 persons,
  - **4%** does not have such team,
  - Acquisition, sales, depot, production, quality management, technical manager,

- 9 persons (Quality Manager, microbiologist, hygiene technician, analysts, leader of raw material acceptance),
- Quality Manager, 1 team consisting of 6 persons (lab, production, depot),
- Factory director, QA Manager, Food Safety Manager, Production line leaders, technical management,
- Executive Director, QA Manager,
- 3-4 persons: Director, QA Manager, laboratory staff,
- 3 persons – quality assurance manager + 2 kneaders
- 2 persons - production manager, technologist
- Quality Manager 2, Quality Assistant: 2, Laboratory technician: 12,
- Consisting of 13 persons (logistics, acquisition, technical line, lab, production)
- 1 person,
- 18 persons. Quality Manager, QC Manager, quality checkers, laboratory manager, laboratory technicians, hygiene technician, product developers.
- 7 persons: Quality Manager, QA Manager, Microbiologist/hygiene technician, Quality checker/trainer, Product acceptors/laboratory technologists (1 person outside season)

- **Who inspects the quality management system?**
  - In **22%** the Quality Manager,
  - In **13%** quality checker, product developer, hygiene technician, production manager,
  - In **6%** external auditor,
  - Quality team,
  - managers; audits (external + internal); management inspection;
  - Quality Manager,
  - Production Manager,
  - External Quality staff and Quality Manager,
  - HACCP committee,
  - Company leadership,
  - The owner and the regulatory authorities.

T3.3: Measurement of the quality management system

T3.3.1: Quality indices

- **92%** specifies the parameters determining the quality from which corrective actions should be implemented.
- **93%** has in-house quality control.
- **What laboratory, physical, chemical, microbiological and organoleptic tests are performed?**
  - **21%** performs physical, chemical, microbiological and organoleptic tests
  - **14%** measures acidity, moisture content, salt content, particle size, gluten content,
  - **5%** performs routine wine chemical tests and organoleptic testing,
  - In-house: physical and organoleptic, External lab: chemical, microbiological tests,
  - Microbiological tests, storing experiments, content measurements, organoleptic tests
  - pH; mass; organoleptic,
  - Organoleptic tests are performed with the final product: the shell and internal part of the baked product is tested.
  - Plant laboratory performs organoleptic, physical, chemical tests.
  - semi-finished product + finished product control, organoleptic test, measurement of fat content, dry matter, weight, size; the decisions are made by the quality assurance manager; there is cost analysis; instruments: fat measuring devices, colorimeters, balances, dry matter measuring device, valinograph; raw material control: microbiology in external lab; packing material control: colour, labelling, thickness, fitting;
  - Measurement of temperature, dry matter, odour, taste and colour.
  - Chemical testing of the delivered milk,
  - Carbon dioxide, acid content (g/L), dry matter in Brix, Opening momentum, mould and yeast, organoleptic testing,
  - Dry matter; fat content; pH measurement, Coliform; total germ count; yeast; mould; clostridium test, Organoleptic testing.
- **83%** of the answerers rate the suppliers.
- **How and by whom? What are the evidences?**

- In **13%** it is documented by the member of the HACCP team, it is included in their procedure, and based on a scoring system,
- In **12%** audit reports, annual evaluation,
- It is regulated by a procedure,
- Quality Assurance Manager, list of approved suppliers,
- audits and their evaluation; raw material specialist, raw material caller, the audit is performed by the Food Safety and Quality Managers,
- Listing of qualified suppliers,
- Suppliers are evaluated based in the reports from the kneaders,
- Certificate of Analysis, laboratory tests; manager,
- Quality Manager evaluates on the appropriately designed datasheet,
- Complete supplier qualification by questionnaire and at the end of the year,
- Quality requirements,
- Managers of the involved areas per product categories. Individual rating form.
- With external audits by the Quality Manager and the Acquisition Manager. Report of external audits, „Suppliers' Rating" ISO document,

- **8%** has list of approved suppliers. The evaluation is performed by the Quality Manager.
- **16%** performs economic analysis based on the quality indices.

T3.3.2: Measurement, control

- **91%** performs control measurements.
- **What control measurements do you have? What instruments you use for these measurements? Who makes the decisions? Do you assess your costs?**
  - In **13%** temperature of refrigerators, acidity of the ferment, time of fermentation, checking the mass of finished products, etc. The decision is made by the plant director. Calibration by certified measuring devices,
  - In **11%** control of mass,
  - In **6%** moisture content, temperature,
  - In **4%** measurement of mass, volume; balance, graduated cylinder, refractometer.
  - Calibrations, measurement of mass and temperature. Calibrated or certified devices,

- Mass – balance, pH, Roche scale, Temperature; the costs of measurements are not assess individually,

- Mass, size, Temperature, Pressure; cost evaluation at the end of the year,

- measurement of temperature and mass near the line,

- Temperature is measured by the laboratory staff.

- semi-finished product + finished product control, organoleptic test, measurement of fat content, dry matter, weight, size; the decisions are made by the quality assurance manager; there is cost analysis; instruments: fat measuring devices, colorimeters, balances, dry matter measuring device, valinograph; raw material control: microbiology in external lab; packing material control: colour, labelling, thickness, fitting;

- Balance; pH-meter; the relevant costs are not evaluated,

- balance, fat measurement, active oxygen, oil content,

- Measurement of the temperature of refrigeration room twice daily, pH, acidity in the raw material of milk,

- Acid-base titration by burette, pH measurement, decision is based on automated carbon dioxide measurement,

- Routine wine chemical tests, microbiological, organoleptic testing,

- Rapid moisture measuring device, freshness (finometer), refraction (refractometer), weight measurement (balance), microbiology (own lab),

- Temperature, Cleanliness, humidity, weight measurement,

- The decision is made by the production manager based on the in-process controls,

- Data analysis methods for statistically well-founded and appropriate control and testing of procedures and products are used in all areas where it is possible and feasible,

- acid content by pH-meter, dry matter by refractometer,

- Number of „Non-Compliance Reports", number of Product prohibitions, Customer complaints; the decision is made by the Quality Manager; partial evaluation.

- **85%** evaluates the control measurements.

- **How, which and what response interval?**

  - In **13%** depending on the risk,

  - **13%** has daily and weekly analyzes,

- In **6%** weekly,
- In **3%** daily,
- In **3%** immediate evaluation + actions as necessary; we have required limit values for all parameters,
- Calibration based on the calibration plan, weight measurement per shift.
- Immediate decision is made regarding the possible corrective actions based on the mass of the raw and baked product,
- With monthly summary,
- Yes, immediately,
- Quality Manager,
- According to the relevant procedure
- In accordance with the provisions of the HACCP plan,
- By investigations, statistical analysis, NCRs, Product prohibitions, customer complaints, changing deadline,

- **88%** controls the repairs and corrections.
- **What control documents do you have?**
  - **13%** has forms in all areas to be controlled (cleaning, rodent control, CCP, supervisory forms, etc.)
  - **12%** has control forms,
  - **7%** has laboratory log, production log, filling permit,
  - **3%** has reports,
  - control forms, annual testing plans, orders and instructions for parameters;
  - „Control" section of NCR, corrective action (in ISO processes),
  - Laboratory log and pasteurization registry,
  - The documents are specified in the HACCP plan,
  - Temperature control log,
  - Signature by the inspectorate on the forms of measured results, CCP supervisory forms, non-compliance forms, corrective action forms,
  - Corrective/preventive action log,
  - Plant log,

- Supervisory log,
- For example: measuring device datasheet, measuring, certification reports.
- Non-compliance report (tracing the measures),
- Intervention forms, internal audits,
- Corrective action form, HACCP supervision.

T3.3.3: Documentation system

- 91% has Quality Manual,
- 91% has risk analysis table.
- **What documents do you use to plan, perform and implement corrective actions (where the documents for corrective actions are created?)?**
  - In **12%** internal audit, management inspection, non-compliance reports,
  - **6%** does not have an established procedure,
  - In case of non-compliance there is an action plan which is part of the HACCP Manual, during internal audit.
  - Recorded on intervention form,
  - According to HACCP documentation,
  - Physical, chemical, microbiological documents,
  - Non-compliances and planned corrective actions are recorded on the „Weekly management reviews".
  - instructions, control sheets;
  - Corrective/preventive form,
  - According to ISO: "Correction", "Prevention" quality procedure,
  - Technological order,
  - Reports, records. Upon investigation of a complaint.
  - Appropriate procedures in written form,
  - Non-compliance form,
  - Procedure and laboratory log for the record of the activity.
  - Corrective Action form; anybody can initiate towards the quality manager,

- Corrective action control form.

- **What responsibilities and competencies did you specify in the organisational chart? Who? What, how and why?**

  - In **12%** the director general specifies and area managers control,

  - In **5%** Director - general responsibility, Quality Manager – operation of the system, Technical Manager – condition of machines and instruments, Sales Manager - consideration of customers' requirements, Senior, medium manager and executor levels,

  - HR management; responsibilities and competencies are set forth in the job descriptions;

  - The responsibilities are specified in the HACCP Manual,

  - Senior, medium manager and executor levels,

  - Responsibilities are set forth in the job descriptions,

  - Not on the chart but in each procedure,

  - Each chapter of the manual specifies the person responsible for that specific area.

  - According to the job description; Director, QA Manager, Production Manager, shift manager, Sales Manager, laboratory staff

  - The hierarchy of positions can be found on the organisational chart. The tasks of seniors and juniors are described in the job descriptions and in the documents of the integrated management system.

  - Responsibilities and competencies are set forth in the specific procedures,

  - Responsibilities are not specified on an organisational chart.

  - According to Quality Management and Food Safety Manual

  - The manager controls everything and workers records during the process.

  - The detailed chart is included in the manual,

  - Job description, replacement matrix,

  - Validation log, corrective/preventive action form,

  - No organisational chart, workers receive oral training,

- **90%** has organisational chart,

- **93%** specifies the responsibilities and competencies.

T3.4: Phases of verification – Feedback

T3.4.1: Audit training

- In **67%** the company is requested to have customer audit,
- In **62%** the company is requested to audit its suppliers,
- In **90%** in-house competency is available.
- **What follow-up control do you have and who performs?**
  - In **13%** the discussed corrective actions controlled by the manager of the involved are,
  - In **12%** QA Manager, Acquisition Manager,
  - In **5%** training of internal auditors is arranged; annual audit plan, continuous internal audits in all areas,
  - They are in constant phone contact with our customers so they are immediately notified of any possible non-compliance.
  - Executive Director, learning of information,
  - Regular internal audits, Additional control, Follow-up
  - Control of the activity; the efficiency is evaluated by the Quality Manager.
  - After audit an action plan is prepared indicating the responsible person and dateline,
  - We do not have internal audit,
  - Per batch at 3 levels,
  - Control is performed by the production manager, technologist, depot manager and the responsible mixer,
  - External expert based on the provisions of the Quality Manual,
  - QA Manager coordinates and assigns the tasks,
  - External expert, follower, manager,
  - Audit report is reviewed by the Quality Manager,
  - Follow-up control, Quality Manager, Acquisition Manager,
- In **89%** the person controlling the corrective actions has the instruction on when and how should these be performed,
- In **85%** everybody knows the instructions.

T3.4.2: Audit in practice – Corrective actions

- **86%** performs internal audit, customer or supplier audit.
- **Which organization performs?**
  - In **14%** auditors assigned by the customers, no certification,
  - In **13%** Büro Veritas,
  - In **5%** a retail chain,
  - In **5%** the internal audit team,
  - McDonald's,
  - Quality Assurance,
  - Audits are not performed by an organization but trained auditors. Supplier audits are performed by the staff of Quality Department.
  - Internal and supplier audit internally, customer audit by e.g. Tesco, SGS,
  - Campden & Chorleywood,
  - AIB,
  - Certification body DNV,
  - Trained auditors.

- **Corrective actions: Who makes the decisions? What is the basis of decisions? (audits, results..?) with whom the decision is made? What are the purposes?**
  - In **12%** QA Manager,
  - In **12%** Quality Manager; Purpose is correction of the error and prevention,
  - In **8%** Plant manager, Executive Director makes the decision,
  - In **3%** the decision is made by persons dealing with quality assurance + external consultant; i.e. factory practice, industrial characteristic, laws, regulations, audit results, purpose: development of a real, realizable, useful correction;
  - Auditor, Manager of the audited area, QA Manager,
  - Management. According to priority. Resolution of the problem.
  - The manager makes the decision according to the result of audit,
  - It is regulated by a procedure,
  - Quality group with the management, based on the results. The purpose is to increase customers' satisfaction,

- HACCP committee,
- According to the severity of non-compliance Quality Manager with the leader of the area, or the Company Manager,
- area manager depending on the activity,

- In **93%** the corrective actions are performed in time,
- In **93%** measures are taken to prevent re-occurrence.

T3.4.3: Application of corrective actions

- **94%** specifies what should be done in case of non-compliance,
- **79%** specifies the priority to rank the corrective actions,
- **89%** specifies the responsibilities for the performance.

T3.5: Completion and maintenance phase

T3.5.1: Follow-up audit

- **What other controls do you have in addition to the audit?**
  - In **21%** regulatory inspections,
  - In **16%** management, regulatory, customer inspections,
  - Do not have other,
  - IFS, ISO 9001 audit, regulatory inspections,
  - Visual checks,
  - Hygienic rounds, CCP inspections,
  - Internal, external inspections,
  - Food safety, quality, hygienic, animal protection, technical,
  - Scheduled follow-up audit in accordance with the type of problem,
  - Daily, weekly inspections,
  - HACCP internal audit, checking the knowledge of CCP workers on their tasks,
  - Regulatory, customer, own inspection,
  - Veterinary inspections, Audit supervisions,

- constant internal control.

- **What do you expect from suppliers' audits?**

  - **13%** expect compliance of suppliers, comprehensive inspection,

  - **12%** expects good results in both cases,

  - **6%** expects objectivity from customers' audit and complete cooperation from the suppliers' audit,

  - Mutual compliance, critical comments with the intention of correction,

  - Better knowledge of demands, requirements, opportunities,

  - Strengthening of relationships, deepening of trust, mutual commitment, cooperation,

  - Efficiency, compliance, assistance,

  - Better cooperation with correction of the revealed deficiencies.

  - Better communication and more efficient cooperation with customers and clients.

  - Improvement of quality and level of hygiene,

  - Constructive opinion, information,

  - More accurate information on the conditions of production, efficient resolution of problems.

- **What means should be available to ensure the next audit? (internal documents, presence of human workforce, communication, follow-up, human factors)**

  - In **29%** internal documents, presence of human workforce, communication, follow-up, human factors,

  - plan, intention to execute, trained auditors, communication, commitment,

  - Material, financial conditions, committed human resources able to continuous improvement.

- **83%** takes measures to accelerate the identification of deficiency,

- **91%** traces the root cause of non-compliance,

- **91%** documents correction,

- **69%** inspects in the internal audit.

T3.5.2: **Maintenance. Materials**

- **93%** thinks maintenance helps to manage the problems.
- **What materials (machines) do you have?**
  - **14%** has kneading, raising, forming, dividing machines, ovens, roll counting machine, bread slicer, bread crumbs packing machine, sieves, etc.
  - **11%** has disintegrator, metal detector,
  - **6%** has machines for grape processing and wine management, bottling machines,
  - **3%** bottling assembly line,
  - sterilizer, sealing machine,
  - It is specified in the list of machines.
  - Raw, auxiliary and packing materials. Machines and instruments approved in the food industry.
  - Colloid mill, hammer mill, steam generator,
  - we use lubricants approved for food industry; machines: confectionery industrial production lines; based on maintenance plan, it is the responsibility of Technical Director, Maintenance manager; trained and skilled technical personnel;
  - Cheese maker machines, Processed cheese maker, Packing machines, Refrigerators, Thickening and pulverizing machines,
  - Egg breaker, pasteurizer, refrigerator, filling machine,
  - Packing machines, skimmers, pasteurizer, homogenizers, pumps, refrigerators
  - Machines of beverages production, pasteurizer, rinsing machine, filling machines, tanks,
  - Oat, dried fruit, colouring agent, flavour, chocolate, mill industrial assembly line,
  - Vegetable processing machines, freezer, packing machine,
  - Meat industrial, cuisine technological machines, freezer, packing machine,
  - Pastry processors, raisers, ovens,
  - Raw materials, packing materials, freezers and ovens,
  - Washing instruments, channel drier, peeling machine, core remover. Packing machine mixer, oven, conveyors, packing machine, x-ray machine.
- **What is the specified frequency of maintenance?**

- In **51%** various frequency depending on the machine and risk, in accordance with the maintenance plan,
- In **6%** occasional maintenance,
- Annual,
- Twice a year,
- daily,
- Weekly,
- Continuously.

- **90%** performs calibration of various measuring and control instruments.
- **97%** has a person responsible for maintenance.
- **92%** received training.

9. CONCLUSIONS

Following conclusions can be made regarding the results and interpretation of the survey:

Just half of the participating companies know the international standards and requirements on food safety. It is very important mostly because enterprises are interested in this subject. However, it is also important that this should be promoted at an even broader level.

This may result in constant control on quality and safer production by compliance with the laws and/or from their own intention.

Majority of enterprises answered that knowledge of regulations is required for quality production.

The answerers are aware of the fact that by implementation of safety rules they contribute to the production/service of increasingly higher quality.

Even if only half of the answerers use the guidelines in their everyday activities.

Most of the answerers rated the guidelines at higher level, and most of them thought that such guidelines would be very helpful in their field of activity.

In summary, the good practical guidelines are very useful but much more practical approach is required through the involvement of better trained persons at professional association levels into the process of development of on-site guidelines. The survey demonstrated that only 2 percent of answerers have already taken part in the development of national guidelines.

Great majority of the answerers considered EU guidelines necessary and think that these guidelines support food safety, prevention of counterfeits and safe food management.

Majority of the surveyed enterprises (82%) thinks that guidelines would have to be more widely used since most malfunctions might be caused by inappropriate knowledge of these regulations.

Consumers' awareness and application of food safety knowledge in the practice increased.

More than half of the enterprises participating in this survey have already heard about HACCP.

The answers have shown that the main problems with the application and implementation of a HACCP-based food safety management system are the lack of knowledge and difficulty to motivate personnel.

The majority (88%) thinks that the hardest task is to inform and motivate people.

Great majority of answerers (91%) performs inspection measurements.

They use external audits only in few cases.

Summarizing the general conclusions of the analysis of survey regarding the Hungarian food processing industry:

- More steps should be taken to broadly implement the application of food safety regulation as many malfunctions are caused by the lack of knowledge of rules;
- Help is needed to handle the obstacles in gaining the knowledge by ensuring intensive training;
- The efficiency should be improved regarding the motivation of employees for safe food production;
- Small enterprises need the most assistance since the lack of knowledge and financial opportunities represents the greatest risk to food safety,
- Answerers think that corporate inspections are more efficient than the external audits.
- All this can be supported by food safety education and interactive training of the appropriate manager and juniors.

Annex – The Questionnaire

Please write the answer that best describes the situation in the specific question.

Data of enterprises participating in WINDAIR survey

Contact person:

Surveyed company:

Number:
Name:
Address:
Branch:
Scope of activity:

Size: - micro enterprise (1-10 persons) ☐
- small enterprise (11-50 persons) ☐
- medium enterprise (51-250 persons) ☐
- large enterprise (>250 persons) ☐

Legend:

Meaning of colours
grey = no answer is needed
orange: 1 = yes or 0 =no
Green = no answer is needed
White = fill in text
yellow = longer text is required

Answers to yes-or-no questions: **Yes = 1**
No = 0

QUESTIONNAIRE

7.1. Food industrial small and medium company <250	
7.2. Food industrial large company >250 workers	
7.3. Commercial association	
7.4. Administrative centre	
7.5. Professional teaching centre	
7.6. University/trade school	
A Knowledge of guidelines, hygienic package and legal regulations	
Planned content of the professional material to be prepared within the framework of Windair project is as follows:	
Theory basics: module	
T1.1: Quality system and regulations	
T1.2. Advantages of quality systems: risk management of food hazards	
T1.3. Elements of quality systems: Traceability	
T1.4. Decision support methods for quality management	
T1.5. Measuring techniques, instruments, quality	
Collection of information	
12. What do you thing about the application of national industrial index in your company?	
12.1. Provides guideline for the work	
12.2. The industrial guidelines could be used for the purposes of certification of the company by regular audits. There would be a list of „certified" companies that follow the guideline and this would represent a commercial advantage supported by a logo.	
13. Do you think these industrial guidelines are not known?	
13.1. development processes of these guidelines are not known?	
13.2. the industrial companies become more organized by the guidelines?	
13.3. the industrial guidelines should be distributed in broader field?	

14. Do/did you participate in the development of good national practical guidelines?		
Community (EU) Good Hygienic Practice guidelines:		
15. Do you know these guidelines?		
16. Do you use Community guidelines in your organization?		
17. Would you like to have this in your industry? What added value do you think would it provide for you?		
17.1. I would not be interested (it would be boring).		
17.2. It would represent sales opportunity, commercial advantage		
17.3. It would assist the development of export trading		
17.4. It would make the export trading more uniform and transparent		
17.5. It supports food safety, prevention of counterfeit and safe food management.		
18. What do you thing about the application of EU guideline in your company?		
18.1. It may provide guideline for the work		
18.2. The EU community guidelines could be used for the purposes of certification of the company by regular audits. There would be a list of „certified" companies that follow the guideline and this would represent a commercial advantage supported by a logo.		
19. Do you think these EU guidelines are not known?		
19.1. development processes of these guidelines are not known?		
19.2. These would have to be arranged for the processing industry?		
19.3. the guidelines should be distributed in broader field?		
20. Do/did you participate in the development of good EU community practical guidelines?		
38. How much do you feel it is required for you to know the hygienic regulation package comprising (EU) hygienic regulations (852-854/2004 EC) and Good Hygienic Practice guidelines?		
38.1. This is the task of authorities		
38.2. This is an obligation specified by the customers		
38.3. This is the internal motivation of the company to achieve quality production		

38.4. One should prepare for it for the future development.		
51. What do you think is not good in relation to the Hygienic package?		
51.1. understandability of wording (text)		
51.2. lack of practical examples		
51.3. lack of good practical guidelines		
51.4. lack of consideration of the size of the company		
51.5. lack of lobby		
51.6. excessive lobby		
51.7. Other		
68. What are the specific and real applications of the training of hygienic package in your organization? (What changes, modifications were made in your system?)		
68.1. new supervisory documentation (reports)		
68.2. new procedure		
68.3. a system developed for production processes		
68.4. Establishment of a quality team		
68.5. More dynamic management system		
68.6. „Step-by-step" training for workers directly involved in processing, by their seniors		
68.7. New customer, new markets		
70. What are the demands of persons participating in the external training on the Hygienic package?		
70.1. Theoretical knowledge		
70.2. Building of relationship with other official organizations		
70.3. Exchange of experience with those already using the hygienic package		
70.4. Adaptation of specific methods for solving problems		
70.5. Provision of food safety basics		
70.6. Meeting with quality managers		
70.7. Other		
B Commercial relationships		
71. Did you experience change in the commercial requirements of their customers in the last few years, since the existence of the Hygienic package?		
72. Do you think that the difficulties of the interpretation of the Hygienic regulation package should be taught to the salers.		
C Implementation of the HACCP system		

Methodological basics:		
T3.1: Introduction phase		
T3.1.1: Information		
T3.1.2: Overview of production		
T3.1.3: Assessment of the condition of equipment, system required for quality		
T3.1.4: Assessment of costs to achieve quality in small and medium enterprises		
T3.1.5: Commitment		
72. How the application of HACCP system should be started? What do you think is the most difficult step?		
72.1. Making financial decisions		
72.2. Arrangement of a team		
72.3. Information and motivation of people		
73. Production flow charts		
73.1. Have your already had production flow chart?		
73.2. Do you have controlled documentations (e.g. procedures, work instructions)?		
74. Highest development at the level of quality		
74.1. Do you take time to analyze the efficacy of a prior measure introduced?		
74.2. Do you specify the limitations of the planned measure?		
74.3 Do you arrange the information of the specific (current) situation in a process prior to the new measure to assess the improvement?		
75. Costs		
75.1. Do you prepare a budget in case of a specific action?		
75.2. Do you consult with colleagues or external experts?		
76. Commitment of the management: who is the person initiating the development / modification?		
76.1 the manager alone		
76.2. A team within the company		
76.3 an external consultant		
T3.2: Period of preparation		
T3.2.1: Surveyed condition		
Do the customers specify quality requirements?		

Did you analyze the food safety risks?	
If yes, what are these? We focus on analysis and handle the risks related to raw material (in accordance with customers' specifications): microbiology, toxicology, foreign materials, allergen, GMO	
Have you ever recorded non-compliance?	
Have you identified the root cause of the problem in each phase of product development?	
Have you already had preventive measures to minimize deficient operation?	
T3.2.2: HACCP Plan	
Do you deal with all problems, are there priorities?	
Who makes the decisions? What are the priorities? Decision: Quality Manager and Production Director Priorities: no priority in food safety and other product quality issues, immediate measures, handling is initiated in case of all problems.	
Do you consider quality as more important then food safety?	
Do you consider food safety as more important then quality?	
Do you have the appropriate means for control?	
Do you have the appropriate means for supervision?	
Do you have the appropriate human resources for control and supervision?	
Did you train the responsible persons?	
Do you have written documents available (maintenance plan, hygienic program, etc.)?	
T3.2.3: Organisational structure	
Did you involve the senior management in the operation of the quality management system?	
What is the composition of the quality team, if any? (number, position) 1 Quality Manager, 1 hygiene technician, 1 Production Director	
Who inspects the quality management system? Quality Manager, assigned external consultant-auditor, certifying organization, occasional customer audits	

T3.3: Measurement of the quality management system	
T3.3.1: Quality indices	
Do you specify the parameters determining the quality from which corrective actions should be implemented?	
Do you have in-house quality control?	
What laboratory, physical, chemical, microbiological and organoleptic tests are performed? *Tests according to the relevant specifications of Codex Alimentarius, standards and customers. (physico-chemical, microbiologic, toxicological in in-house and external accredited laboratories)*	
Do you rate your suppliers?	
How and who? What are the evidences? *Rated by the Acquisition and Quality Managers* *Basis: quality test reports of raw materials, associated deviations, experiences with previous cooperation.*	
Do you perform economic analysis based on the quality indices?	
T3.3.2: Measurement, control	
Do you perform control measurements?	
What control measurements do you have? *What instruments you use for these measurements? Who makes the decisions? Do you assess your costs?* *physico-chemical, microbiologic, toxicological in in-house and external accredited laboratories* *Certified/calibrated laboratory and factory measuring-testing devices required for reliable testing are available.* *Decision: Quality Manager and Production Manager* *We evaluate the costs.*	
Do you evaluate the control measurements?	
How, which and what response interval? *Comparison of measuring results with the relevant requirements (standard, customer specification, law, regulation)* *We use immediate feedback.*	
Do you supervise the repairs, corrections implemented?	

What control documents do you have? In-process control records, hygienic control reports, laboratory test reports	
T3.3.3: Documentation system	
Do you have Quality Manual?	
Do you have risk analysis chart?	
What documents do you use to plan, perform and implement corrective actions (where the documents for corrective actions are created?)? HACCP plan, Work and control instructions, Collection of procedures, Batch records (with in-process control records), Deviation report forms, Maintenance logs, Hygienic action plan	
What responsibilities and competencies did you specify in the organisational chart? Who? What, how and why? We assigned the responsible person in each area, Responsibilities and competencies are specified in job descriptions	
Do you have organisational chart?	
Did you specify responsibilities and competencies?	
T3.4: Phases of verification – *Feedback*	
T3.4.1:Audit training	
Is the company requested to have customer audit?	
Is the company requested to audit its suppliers?	
Is in-house competency available?	
What follow-up control do you have and who performs? Evaluation, auditing is performed by the Quality Manager and/or Acquisition Director Our system is audited by an assigned external consultant-auditor.	
Does the person controlling the corrective actions have the instruction on when and how should these be performed?	
Do you know the instruction?	
T3.4.2:Audit in practice– *Corrective actions*	
Do you perform internal audit, customer or supplier audit?	

Which organization performs? Evaluation, auditing is performed by the Quality Manager and/or Acquisition Director The internal audit is performed by an assigned external consultant-auditor. Certification audit: TÜV Rheinland Intercert Kft. Some of our customers perform occasional audits.	
Corrective actions: Who makes the decisions? What is the basis of decisions? (audits, results..?) with whom the decision is made? What are the purposes? *Corrective actions are approved by the Quality Manager in accordance with the relevant regulations, recommendations.*	
Are the corrective actions executed in time?	
Are measures taken to prevent re-occurrence?	
T3.4.3:Application of corrective actions	
Did you specify what should be done in case of non-compliance?	
Do you specify the priority to rank corrective actions?	
Do you specify the responsibilities for each action?	
T3.5: Completion and maintenance phase	
T3.5.1: Follow-up audit	
What other controls do you have in addition to the audit? Regulatory inspections, internal hygiene-occupational safety rounds.	
What do you expect from suppliers' audits? Gaining experience, recommendations for further improvement, identification of new solution approaches, exchange of professional experience.	
What means should be available to ensure the next audit? *(internal documents, presence of human workforce, communication, follow-up, human factors)* Presence of personal, material, environmental and documentation requirements ensuring compliance with the provisions of the applicable standards.	
Do you take measures to accelerate the identification of the error?	
Do you trace the root cause of non-compliance?	
Do you document the correction?	
Do you check this in the internal audit?	
T3.5.2: Maintenance. Materials	

Do you think maintenance helps to manage the problems?		
What materials (machines) do you have? Steam drier heat treatment device, disintegrators, stone mills for red pepper, mixers for milled substances, sieves, metal detectors, factory balances, transportation equipment (manual elevators, fork lift trucks)		
What is the specified frequency of maintenance? The scheduled interventions and required technical supervisions are specified in the annual maintenance plan (usually annual „major maintenances”)		
Do you calibrate various measuring and control instruments?		
Do you have a specific person responsible for maintenance?		
Did he/she receive training?		