

**FOODSEG**



**Project number:**

**Project acronym:** FOODSEG

**Project title:** Strengthening cooperation in food safety research in the enlarged European Union

**Instrument:** Specific support action

**Thematic Priority:** Food Quality and Safety

**Deliverable:** xxx

Due date of deliverable: xxx

Actual submission date: xxx

Start date of project: **1.07.2011** Duration: 30 **months (2011-2014)**

Organisation name of lead contractor for this deliverable:

**Partner No. 22, UDJG**

## **1. Introduction**

FOODSEG is a 7th Framework Programme (FP7) project within the Specific Programme 'Cooperation'. The relevant FP7 Research Theme is: 'Food, agriculture and fisheries, and biotechnology'. FOODSEG wants to build a European knowledge-based bio-economy (KBBE) by bringing together science, industry and other stakeholders, to exploit new and emerging research opportunities that address social, environmental and economic challenges.

FOODSEG is a so-called coordination and support action and has the overall objective to disseminate state-of-the-art research results in food safety and quality topics through a series of symposia, expert working group meetings, an online platform with best practice examples and coordination of cooperation and a plan for the preparation of future activities.

### ***FOODSEG Objectives***

FOODSEG involves a series of strategic and measurable objectives in order to support the research activities carried out in the field. FOODSEG involves a series of strategic and measurable objectives in order to support the research activities carried out in the field of safety for food. FOODSEG has set itself the following key objectives listed as follows:

- Establishing expert working groups to coordinate research activities and to support policy development at EU level and to contribute by identifying research agendas for future community research in the field of food safety and quality, along the whole food chain.
- Supporting the European Commission in formulating suggestions for political consequences and relevant research topics. The expert working groups will elaborate policy recommendations to the European Commission and make suggestions for coming up research topics in the field. Furthermore, the consortium has the objective to co-operate and contribute to the following technology Platforms, especially those which have food safety as part of their Strategic Research Agenda: Food for Life; Plants for the Future; Global Animal Health; Farm Animal Breeding and Reproduction; Water Supply and Sanitation.
- Integrate experts from New Member States and associated countries
- Disseminate research results through an online platform and to establish new project consortia for FP7 and FP8
- To initiate and set-up a researchers exchange programme

## 2. Results

An online questionnaire was sent out to various persons involved in food safety to evaluate the situation in different countries.

The survey was entitled **Safety and healthy food for the safety of human consumers.**

The objectives of the survey were:

- Identification of specific national problems along food chain and conditions in “safety food” issues
- Identification of specific research needs in NMS and ACC
- Mapping of the research landscape in this field in NMS/ACC
- Research competencies atlas for NMS/ACC including main institutions and experts in this field

The target group has been represented by persons from large companies, SME's, universities, research institutions, public health services, advisory services or other sectors related to healthy food for livestock and humans (→ Question 1). The participating countries include EU Member States, New Member States (NMS) and Associated Candidate Countries (ACC) (→ Question 2).

After a few changes in formulation of the questioning and a trial run among the working group members in March 2013, the form containing 7 questions only and an open field for additional comments was put on an online platform which was open to access from 26th of March 2013 until 30th of April 2013.

By going through personal and professional contacts, different university homepages and internet networks, the e-mail addresses of possible participants were identified. The potential respondents have been contacted by e-mail including a short presentation of the project and a link to the website, where the questionnaire for the online survey was placed. When required, the dissemination of the questionnaire was followed by 2 reminders, the last one on 15th of April 2013.

### **Detailed analysis of the answers**

After a runtime of over one month, the number of answers received was 178. Unfortunately, we did not get, however, answers from every requested country. Moreover in some cases the number of respondents per country was not high enough to allow concluding statistically significant remarks.

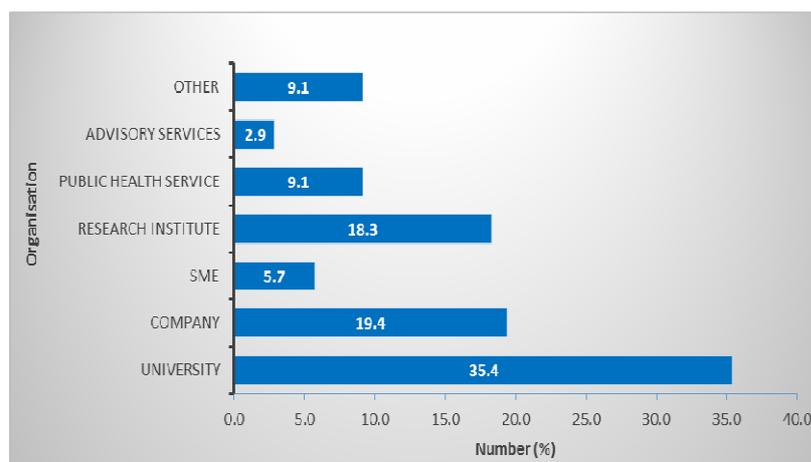
## 2.1. Question 1: *Type of organisation*

The following table presents the distribution of respondents by organisation:

**Table 1.** Organisations participating in the survey by type

<i>Organisation</i>	N	%
University	62	35.4
Company	34	19.4
SME	10	5.7
Research Institute	32	18.3
Public Health Service	16	9.1
Advisory Services	5	2.9
Other	16	9.1
Total	175	100

Number of respondents who skipped this question - 3



**Figure 1.** Organisations participating in the survey by type

Comments:

Figure 1 presents the affiliation of the participants to different types of organisations / institutions. Most of the participants in the survey represented universities (35.4%), while the representatives of food companies and research institutes positioned themselves on the second and third place, but very close ones from the others, with 19.4% and 18.3% respectively. The proportion of the respondents who represented public health services was 9.1%, and that of the respondents who represented consultancy services was 2.9%. We have to appreciate the

contribution given to the survey by SMEs representatives, the proportion of this respondent category being of 5.7%.

## 2.2 Question 2: *Country*

**Table 2.** Respondents participating in the survey by country

<i>Country</i>	<b>N</b>	<b>%</b>
Albania	1	0.6
Bulgaria	12	6.8
Croatia	10	5.6
Czech Republic	47	26.6
Estonia	2	1.1
Finland	1	0.6
Greece	9	5.1
Hungary	1	0.6
Latvia	1	0.6
Lithuania	7	4.0
Macedonia	1	0.6
Malta	1	0.6
Montenegro	2	1.1
Netherlands	1	0.6
Poland	14	7.9
Romania	10	5.6
Serbia	12	6.8
Slovenia	35	19.8
Spain	1	0.6
Turkey	9	5.1
<b>Total</b>	<b>177</b>	<b>100</b>

Number of respondents who skipped this question - 1

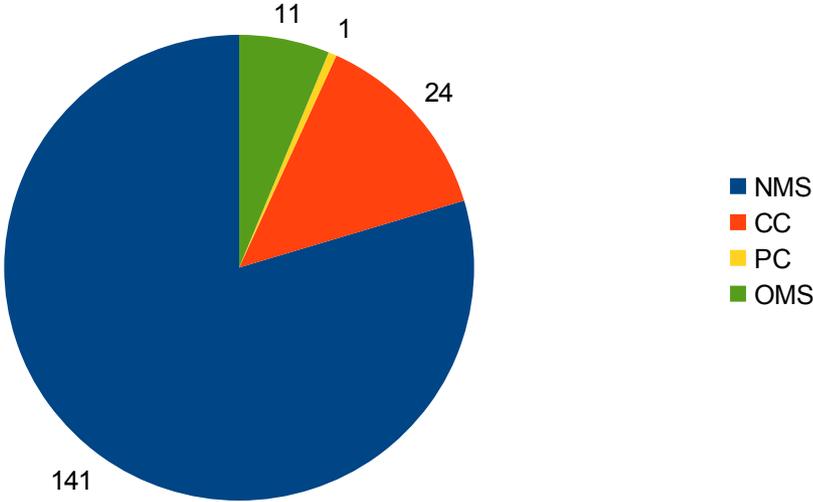
Comments:

The survey respondents represented 20 countries. The survey had respondents from new member states (79.66%), from candidate countries (13.56%), potential candidate countries (0.56%) and old member states (6.22%) too (see figure 2).

As seen in table 2, a strong representation had Czech Republic and Slovenia, 26.6% and 19.8% respectively of the respondents belonging to these countries. A significant lower number of 14 (7.9%) respondents had Poland, while Bulgaria and Serbia had 12 respondents (6.8%) each out of 177. Croatia and Romania were equally represented with 10 respondents each (5.6%), followed by Greece and Turkey with 9 respondents each (5.1%), and Lithuania with 7 respondents (4%). In case of all other participating countries, the percentage of survey respondents was below 4%.

Despite the fact that the survey was addressed to NMS and ACC countries, it had also respondents from some OMS as the Netherlands (0.6%), Spain (0.6%) and Greece (5%).

No replies came from small countries such as Cyprus, Iceland, Liechtenstein, and Luxembourg, probably because of the low number of recipients.



**Figure 2.** Participants classification by country group

NMS – New member States, CC – Candidate Countries, PC – Potential candidates, OMS – Old Member States

**2.3.1 Question 3a:** *Do you see any national problems, changes in practice or research requirements in the following areas in your country?*

**Table 3a.** Answers to Question 3a

<i>Do you see any national problems, changes in practice or research requirements in the following areas in your country?</i>	N
Level of research in the field of "Healthy Food"	63

Level of research in the field of "Functional Food"	46
Implementation of EU law in the field of food safety	46
Simplification of EU Law for practical applications	48
Reciprocity between EU and national legislation	31
Insufficient logistics – Laboratories	31
Insufficient logistics - Analytical methods	36
Insufficient logistics - Qualified personnel	36
Regulatory affairs in the field	29
Quality Standards	35

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#### Comments:

When answering to the question “*Do you see any national problems, changes in practice or research requirements in the following areas in your country?*” the respondents identified multiple national problems. A total number of 63 respondents out of 178 (35.4%) observed problems in the level of research in the field of ”Healthy Food”, and only 46 respondents identified problems in the field of ”Functional Food”. Some comments arose from one university employee from Romania who mentioned that “Research in the domain of Functional foods increased a lot in the last five years. Besides characterization of the food, researchers have to take into account that they have to prove the functionality of the product by clinical tests.”

Concerning the EU law in the field of food safety, 46 respondents (25.8%) expect changes in the implementation, while 48 respondents (27%) seek for the simplification of the law for practical applications. One Greek employee of the public health service mentioned particular “difficulties in EU law implementation because of farmers search for low cost products”.

It worth mentioning that, out of the total respondents identifying the need for change in the implementation and/or simplification of EU law, only 23 respondents consider that reciprocity between EU and national (member state) legislation require a special attention, in addition to other 8 respondents, mainly from Slovenia and Croatia, who ask solely for EU and national legislation unification.

Some particular comments were received from one of the respondents from Greece stating that “there are a few cases of legislation differentiations among EU and National legislation regarding inspections in Food Business Operators.” Moreover, one of the respondents from Bulgaria mentioned the “lack of coordination between the regulations and the requirements of the market, and lack of coordination between public regulations and the necessity of the business”, while one Turkish SME representative stated that “Turkey is adopting the EU acquit to its own legal system; there is adequacy for complete implementation”

As for the logistics, 44.4% of the respondents from Greece, 33.3% of the respondents from both Serbia and Turkey and 30% of the respondents from Romania identified research requirements related to the laboratories; no problems were reported by the respondents from Poland. In addition, the respondents from Serbia (50%), Turkey (33.3%), Bulgaria (25%) and Greece (22.2%) claimed insufficiency related to the analytical methods. When questioning about the qualified personnel, problems were raised by Romania (50% of the Romanian respondents), Serbia (41.7% of the Serbian respondents) and Bulgaria (33.3% of the Bulgarian respondents). According to one of the university affiliated respondent, “Romania has a shortage of qualified persons for working with methods based on molecular biology.” An interesting link between the level of research and all logistics issues and the level of research was proposed by a Serbian representative, blaming both Ministry of Research and Ministry of Agriculture for “not recognizing the importance of production of healthy and functional food in Serbia”.

Out of the 29 respondents reporting problems with the regulatory affairs in the field, 44.8% work for universities, 20.7% for research institutes and only 6.9% for the public health services. The regulatory affairs problems were mostly rated by respondents from Serbia (33.3%), Turkey (33.3%), Greece (22.2%) and Croatia (20%). Problems related to the quality standards are mainly mentioned by universities employees (42.9%), originating mainly from Bulgaria (41.7% of the Bulgarian respondents), Slovenia (25.7% of the Slovenian respondents), Turkey (22.2% of the Turkish respondents), Poland (21.4% of the Polish respondents) and Croatia (20% of the Croatian respondents).

Some other issues were raised by respondents from Croatia, namely the “lack of cooperation between competent authority and stakeholders” as well as “lack of risk communication” at national level.

### **2.3.2 Question 3b: *In your opinion, which are the challenges that your country has to meet in order to protect the safety of its population? (mention at least two).***

At this question, 101 respondents out of 178 participating at the questionnaire gave at least two examples. Most of the respondents mentioned the following challenges:

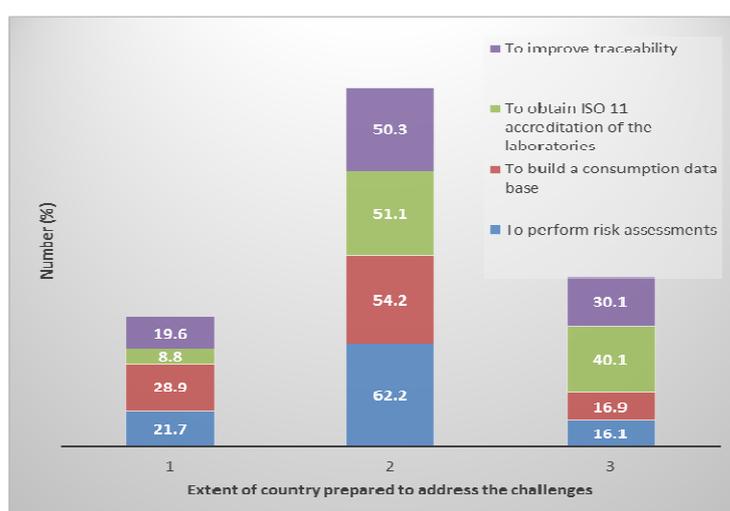
- Simplification of EU law for practical application
- Perform risk assessments and improve risk communication
- Prove functionality of food products
- Developing rapid methods for the assessment of food contaminants
- Train personnel for using modern analytical methods
- Harmonization of analytical methods

### 2.3.3 Question 3c: *Up to what extent is your country prepared to address the following challenges?*

**Table 3c.** Answers to Question 3c

<b>Up to what extent is your country prepared to address the following challenges?</b>	<b>Low (%)</b>	<b>Medium (%)</b>	<b>High (%)</b>	<b>N</b>
To perform risk assessments	21.7	62.2	16.1	143
To build a consumption data base	28.9	54.2	16.9	142
To obtain ISO 11 accreditation of the laboratories	8.8	51.1	40.1	137
To improve traceability	19.6	50.3	30.1	143

Number of respondents who skipped this question - 34



where: 1 = low extent, 2 = medium extent and 3 = high extent.

**Figure 3:** Answers to Question 3c – *Up to what extent is your country prepared to address the following challenges?*

Comments:

Figure 3c shows that most countries are prepared to address the mentioned challenges to a medium extent. Most of the respondents with high expectancies concerning the extent to which their own countries are prepared to address challenges such as performing risk assessments, are originating from Slovenia (9 respondents out of 35) and Czech Republic (7 respondents out of 47).

Concerning building of a consumption data base, 8 Bulgarian respondents out of 12 and 6 Turkish respondents out of 9 consider that their own countries are prepared to a low extent to undertake this kind of challenge.

Moreover 13 respondents from both Czech Republic and Slovenia are confident that their country is highly prepared to address challenges related to ISO accreditation of the laboratories. Among statistically significant represented countries no Bulgarian respondent expect to a high extent important changes in the way of addressing food safety related challenges at national level.

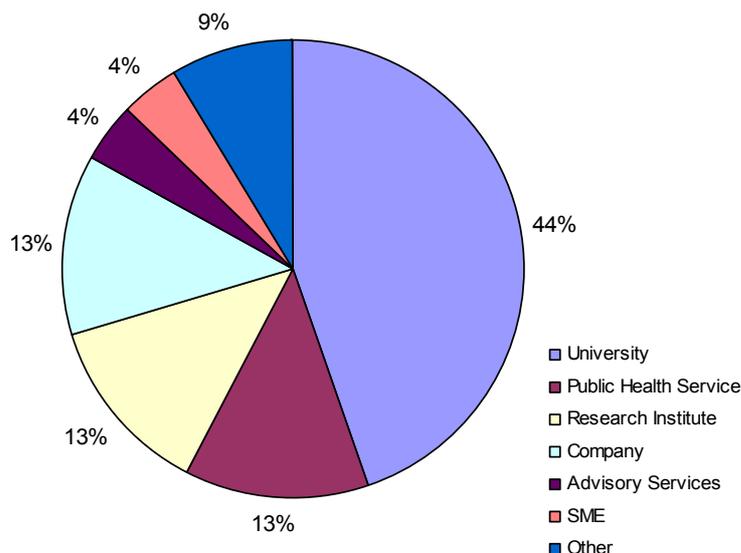
**2.4 Question 4: *What are your suggestions to policy makers in the field of healthy food to improve the situation in your country, either in research or policy-making?***

**Table 4:** Answers to Question 4

<b>What are your suggestions to policy makers in the field of healthy food to improve the situation in your country, either in research or policy-making?</b>	<b>N</b>
Set up of national regulations	47
Adapt EC regulations in "Food quality and food related public health"	55
Adapt EC regulations in "Food labelling and traceability"	59
Adapt EC regulations in "Feed and food additives"	40
Sourcing of feeds and food from sustainable and socially responsible sources	69
More use of local regional traditional food	84
Other	12

**Comments:**

A number of 84 out of 139 (60.4%) suggested that the improvement of the healthy food situation in their country could rely on a extensive use of local regional traditional food. Sourcing of feeds and food from sustainable and socially responsible sources was also highly rated by 69 respondents out of 139 (49.6%). Important number of respondents mentioned EC regulations adaptation as tool for policy makers to improve the national situation when dealing with Food labeling and traceability (42.4 %) and with Food quality and food related public health (39.6 %), and only 40 respondents (28.8%) identified the necessity of adapting the EC regulations in "Feed and food additives". The need for set up of national regulation was mostly evoked by respondents affiliated to universities (21 respondents) and Public Health Services (6 respondents) (Figure 4).



**Figure 4.** Classification of the respondents who rated the need for “*Set up of national regulations*”, based on their affiliation to different types of organizations

**2.5. Question 5: Which fields of activity and research areas do you consider to be important for your country in the future?**

**Table 5a:** Answers to Question 5a – *Food labelling & traceability*

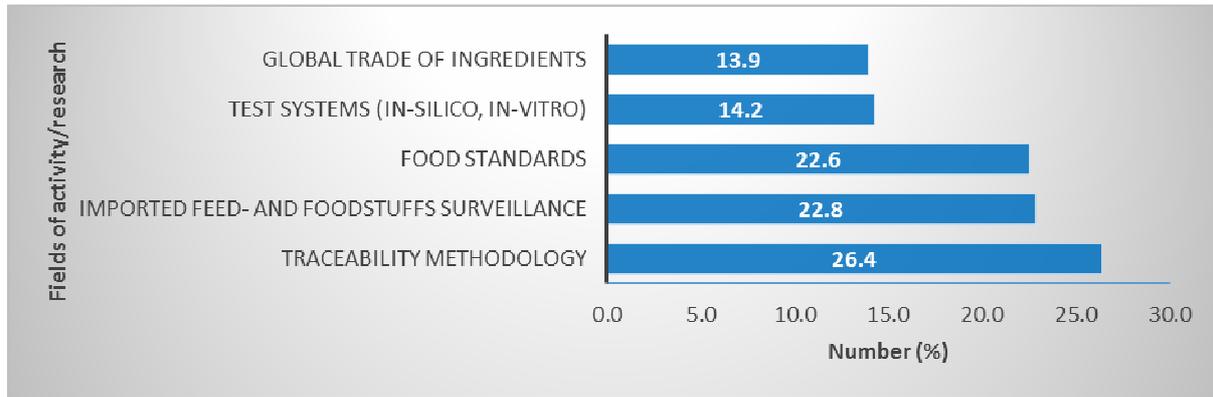
<i>Food labelling &amp; traceability</i>	<b>N</b>
Traceability methodology	89
Imported feed- and foodstuffs surveillance	77
Food standards	76
Test systems (in-silico, in-vitro)	48
Global trade of ingredients	47

Number of respondents who skipped this question - 36

Comments:

Figure 5a shows the most important fields of activity and research for the countries’ future in terms of food labeling and traceability. According to these results, the *traceability methodology* was identified by 89 out of 142 respondents (62.7%) to be the most important research issue, followed by *Imported feed- and foodstuffs surveillance* and *Food standards* with 53.5%. Only 30 respondents considered both *Imported feed- and foodstuffs surveillance* and *Food standards* as fields of activity of high importance.

Most of the respondents who selected *Traceability methodology* and *Imported feed- and foodstuffs surveillance* are from Slovenia (21 respondents and 17 respondents respectively out of 142), Czech Republic (16 respondents in each case) and Bulgaria (9 respondents and 6 respondents respectively).

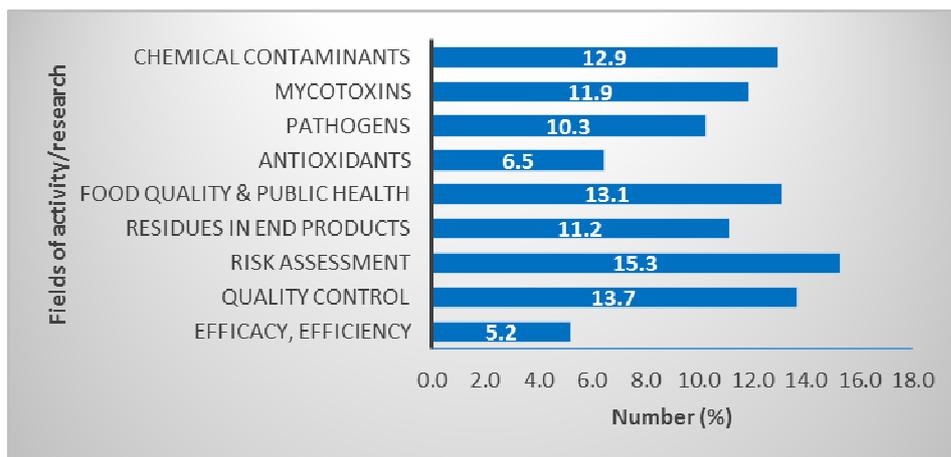


**Figure 5a:** Answers to Question 5a – *Which fields of activity and research areas do you consider to be important for your country in the future? - Food labelling & traceability.* The values on the bars indicate the probability of appearance of each answer when reporting to the total number of answers

The least important *food labelling & traceability* issues were identified to be the *Test systems (in-silico, in-vitro)* and the *Global trade of ingredients* mentioned only by 48 and respectively, 47 respondents out of 142, having no particular statistical relevance with respect to the country of origin or affiliation.

**Table 5b.** Answers to Question 5b - *Food Additives*

<i>Food Additives</i>	<b>N</b>
Efficacy, Efficiency	29
Quality Control	76
Risk assessment	85
Residues in end products	62
Food Quality & public health	73
Antioxidants	36
Pathogens	57
Mycotoxins	66
Chemical contaminants	72
Number of respondents who skipped this question - 35	



**Figure 5b.** Answers to Question 5b – *Which fields of activity and research areas do you consider to be important for your country in the future? Food Additives.* The values on the bars indicate the probability of appearance of each answer when reporting to the total number of answers

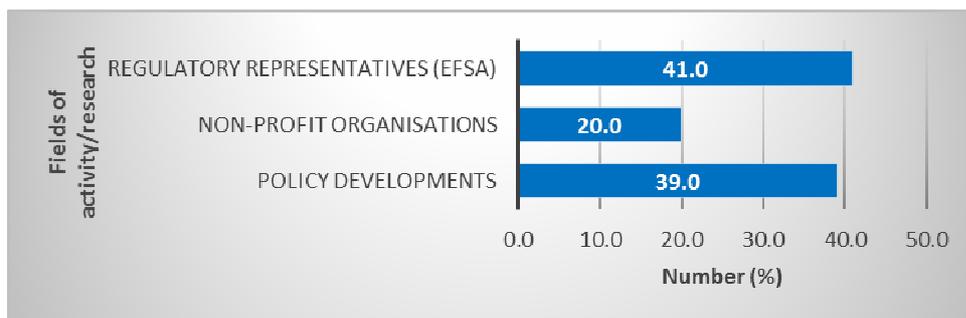
Comments:

Figure 5b shows the most important fields of activity and research areas for the countries' future in terms of food additives. According to this, *Risk Assessment* was identified by 85 out of 143 respondents (59.4%) to be the most important, together with the *Quality Control* with 76 (53.1%). These fields were closely followed by *Food Quality & public health* and *Chemical Contaminants*, being rated by 51% and 50.3% of the respondents respectively. Most of the respondents rating *Risk Assessment* also mentioned *Mycotoxins* (46.2%), *Residues in end products* (43.4%) and *Pathogens* (39.9%) as important *fields of activity and/or research areas*. The least important *Food Additives* issues were identified to be the *Efficacy, Efficiency* being mentioned only by 29 respondents affiliated mainly to universities (34.4%) and companies (31%).

**Table 5c.** Answers to Question 5c - *Regulatory development*

<i>Regulatory development</i>	N
Policy developments	80
Non-profit organisations	41
Regulatory representatives (EFSA)	84

Number of respondents who skipped this question - 43



**Figure 5c.** Answers to Question 5c – *Which fields of activity and research areas do you consider to be important for your country in the future? Regulatory development.* The values on the bars indicate the probability of appearance of each answer when reporting to the total number of answers

Comments:

Figure 5c shows the most important fields of activity and research for the countries' future in terms of *regulatory development*. The importance of the *Regulatory representatives (EFSA)* was recognized by 84 out of 135 respondents (62.2%), followed closely with 80 respondents (59.3%) by the *Policy developments*. On the other hand less the one third of the respondents (30.4%) pointed the role of *Non-profit organizations* for *Regulatory development* as being important for their countries in the future.

Answers to Question 5c - *Financing / Investments*

When questioned about the importance of *Financing / Investments* (Question 5c), 90 respondents affiliated mainly to universities (37.8%), research institutes (20%) and companies (16.7%) concluded that investors/consulting agents represent the key for the future of their countries.

**2.6. Question 6:** *What is your opinion of the status in food quality and safety in your country? Give a short overview of your feeling in research and development in this field, as well as in policy and governmental issues and in legislation issues. What are the main national problems in your country which need to be solved?*

The number of respondent presenting their opinion on the status of research and development in the field of food quality and safety was 100. As mentioned by one of the respondents “Food safety is result of co-operation of several activities / parties from farm to table of consumers, including the feed and food industry, the retail markets and the HoReCa sector as well as authorities. Education of all parties at high level is required. Traceability of raw material lots

is demanding. Need for rapid methods for detection of food contaminants, pathogens and chemical residues, e.g. mycotoxins. Funding for these research topics is difficult to obtain". Moreover the food safety education should be considered a priority, as it might allow the long term increasing of the food quality and safety level.

The main national problems which need to be solved in most of the countries participating to the survey are:

- overlapping activities between different bodies/organisation,
- lack of political independence,
- need for better support for research.

In addition, several particular issues identified by respondents have to be mentioned:

Poland is facing "problems with food labeling and food authenticity. Special attention shall be put on problems related to the slaughters performed on farms and then the usage of this meat."

The safety aspects of the „cheap food" were mentioned by several respondents from Slovenia and Lithuania. In Slovenia food quality is directly dictated by the economic situation of the consumers. Therefore „low quality and low priced food from the import prevails in the shops". The respondents blame the „Insufficient support and recognition of quality of local producers" and suggest that „country strategy have to be focused mainly in how to live and survive with local food".

On the other hand in Croatia the „official authorities are trained and equipped to preform food safety and food quality testings. There is a "network" of governmental organizations that are dealing with food control. A lot of control are no longer mandatory and permanent, they are carried out in terms of monitoring or periodic monitoring, and should be reevaluated if they need to be more precisely conducted."

***2.7. Question 7: What is your opinion of the status in food security in your country? Is your country prepared to sustain the agriculture sector? In which extent it will rely on international trade to ensure the food security of the population? Are researchers contributing to improvements related to food security? Does your government developing an adequate policy regarding this issue? It is needed to apply for a certification for sustainable food?***

Regardless of respondents' affiliation or origin, the main needs identified are related to:

- Support of Public Food laboratories
- Technical and financial support to primary production/support to SMEs
- Increase of the use of local products

- More food exports and less imports
- Consumer education

Some of the most relevant issues and comments raised by the respondents are presented below:

„Many problems in agriculture are connected with the funding and competition with the massive and cheaper production from bigger countries” – respondent from Slovenia working for university.

„Taking into account the Global Food Security Index (GFSI) 2012, Spain is the thirteenth worldwide country in the overall GFSI ranking table (category scores 0-100 where 100=most favourable). Nonetheless, family farming forms the basis of sustainable food production for food security and food sovereignty, of environmental management of land and its biodiversity and the preservation of important socio-cultural heritage of rural communities and nation.” – respondent from Spain working in a research institute.

„Official authorities has developed National crisis plan. Researchers are contributing to the improvement of food safety and security.” – respondent from Croatia working for university.

„The government develops an adequate policy to sustain the agriculture sector”. On the other hand „Government's policies on food security are unclear and not exact. There are very few documents that would give strong standpoints and guidelines. Researches are highly academical and are not contributing to improvements as much as industry would need. – respondents from Slovenia.

„Research contributes significantly in food security improvement, but there is low dissemination of research results to the food industry” – respondent from Greece working for university.

„Bulgaria may develop a policy towards the intensification of agriculture in the allocation of subsidies. This will facilitate the production of crops, supplying the domestic market and exports. Proper distribution of resources can lead to an increase in legal proceedings against the informal sector and the influx of imported agricultural products” – respondent from Bulgaria.

### **3. Conclusion**

Improvements are necessary at all levels in education, research and industry, as well as in the worked performed by food regulators and policy makers. The challenges and food safety related issues have to be prioritized in order to ensure the efficiency of taken measures.