The meeting was hosted by the Spanish Ministry of Economy, Industry and Competitiveness and was held in Seville, Spain on 9-11 May 2018.
OECD Fruit and Vegetables Scheme

Proceedings

of the

18th Meeting of the Heads of National Inspection Services

May 9-11, 2018
Seville, Spain

Organised by
OECD

Hosted by
Spanish Ministry of Economy, Industry and Competitiveness
FOREWORD

The OECD Fruit and Vegetables Scheme organised the 18th OECD Meeting of the Heads of National Inspection Services in Seville, Spain, on 9-11 May 2018, on the invitation of the Spanish Ministry of Economy, Industry and Competitiveness. The Meeting was attended by 34 delegates from 18 Scheme's participating countries as well as one Observer country. The Secretariat of the FAO/WHO Codex Alimentarius Commission was also represented.

The objective of the Meeting of the Heads of National Inspection Services is to facilitate discussions between inspection services on major developments and challenges in the fruit and vegetables sector and quality inspection system. It is also a good possibility for the countries to provide an update on the latest developments in inspection techniques and tools, and to harmonise the application of OECD quality standards.

The Meeting focused on inspection systems, traceability, internet sales of fruit and vegetables, new greenhouse technologies, organic produce, fruit and vegetables pests and citrus markets and trends. Spain gave an overview of their national quality inspection systems. Spain also organised a technical visit to see Peach and nectarine production and inspection.

The debates took place at the Chamber of commerce of Seville.
The Spanish Ministry of Economy, Industry and Competitiveness hosted the 18th OECD Meeting of the Heads of National Inspection Services in Seville, Spain, on 9-11 May 2018. 34 delegates from 18 Scheme's participating countries as well as one Observer country attended the meeting. The Secretariat of the FAO/WHO Codex Alimentarius Commission was also represented.

The Meeting discussed the Spanish fruit and vegetables sector presented by Subdirección General de Frutas y hortalizas y Vitivinicultura Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente and the Spanish Inspection System provided by Subdirección General de Inspección, Certificación y Asistencia Técnica de Comercio Exterior.

Delegates also listened to a very interesting presentation by ANIA on new trends and technology for the microbiological control of fruit and vegetables. ANIA is a technology centre established in 1987 as a non-profit organisation. ANIA develops tools to anticipate on risks and focused on their work on risks that may affect fruit and vegetables in the future.

The Spanish private sector made a very comprehensive presentation on the citrus sector and the trends and challenges.

Delegates were also updated on organic fruit and vegetables markets, trends and challenges in Spain as well as on strategies applied in Spain to fight against fungi in the fruit and vegetable production.

Delegates also got a detailed insight into new greenhouse technologies.

Participating Countries also discussed several challenges being faced by inspection services amongst participating countries. In particular they discussed the challenges of conformity checks for fruit and vegetables internet sales (distant selling), the feasibility for OECD to develop operating rules to address internet sales and the other issues that should be considered along with internet sales. Delegates also discussed traceability issues and shared experiences on actions taken at national levels to tackle this challenge.

Spain organised a field trip to visit peaches and nectarines harvest sites as well as packinghouses. Delegates welcomed the opportunity to witness first-hand the production cycle of peaches in Spain. The Andalucía region has unique climate conditions that require extreme attention to water and nutrients of the soil. Therefore, farmers need to make the most of their land using state of the art knowledge and technology.

The recommendations of the Heads of National Inspection Services will be submitted to the 2018 77th Plenary Meeting for discussion.
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OPENING ADDRESSES

The 18th Meeting of the Heads of National Inspection Services was hosted by the Chamber of Commerce of Seville and locally organised by the Seville Centres of SOIVRE, the Inspection Body of the Territorial and Regional Directorate of Trade, under the coordination of the Deputy Directorate of Inspection Certification and Technical Assistance for Foreign Trade, Ministry of Economic Affairs and Competitiveness.

Presentations on this section:

- Opening address 1 by the President of the Chamber of Commerce of Seville
- Opening address 2 by the Regional Trade Director in Andalucia - ICEX (Director of the SOIVRE Centres in Seville)
Opening address 1

by Mr Francisco Herrero León, President of the Chamber of Commerce of Seville

Dear delegates of the OECD Scheme of Fruits and Vegetables, ladies and gentlemen.

It is an honour for me, as President of the Chamber of Commerce, to host the OECD Heads of Inspection Services Meeting in our home.

One of the most important activities that we have entrusted the Chambers of Commerce is the promotion of the export activity of Spanish companies; therefore, it is a pleasure to receive the Scheme of the OECD Fruits and Vegetables in the Chamber of Commerce of Seville, which contributes to trade facilitation.

I know that the Spanish Administration, in this case the Ministry of Economy, Industry and Competitiveness, and specifically our friends from the Territorial Directorate of Commerce, and the Subdirección General de Inspección in Madrid, work to facilitate commercial operations, energizing them, promoting them and reinforcing them. Our house is always open to them, and more in this case, for an aim linked to our own objectives as Chamber of Commerce.

When they explained to me exactly what this forum consists of: progress in the standardization of fruits and vegetables, and in the interpretation of these rules, to achieve a common language among operators in order that distance is not an impediment for commercial operations to occur without problems, I was told that commercial quality standards are a common language for international trade, and that it is a way of communicating between the contracting parties of the commercial operation, thus an essential language. But, they also told me how having a good dictionary is essential for having a good language. And they tell me that you are in charge of editing those dictionaries with their interpretative brochures of the norms.

And, although you will already know, let me remind you of the importance of your meticulous and detailed work, since thanks to the development and elaboration of interpretative brochures and inspection guides, the international trade of fruits and vegetables is enormously possible. Can you imagine the international fruit trade without rules and without regulations? It would be chaotic without a doubt.

According to data from the Ministry of Economy, Industry and Competitiveness of Spain, agricultural food exports accounted for EUR 44,542 million in 2016, that is, they accounted for 17.5% of total exports. Within agri-food exports, fruit and vegetable exports accounted for 22.5%. These data speak for themselves about the great importance of the foreign sector of fruits and vegetables for the Spanish economy. Therefore what you are going to decide here is undoubtedly important at the level of the different sectors involved and many decisions are translated into business figures.

I reiterate my welcome and I trust that you will work well and at ease in our house, that these days is yours as well.
Estimados delegados del Esquema de la OCDE de Frutas y Hortalizas, señoras y señores.

Es un honor para mí, como Presidente de la Cámara de Comercio, el acoger en nuestra casa el Foro de encuentro de los Jefes de los Servicios de Inspección de la OCDE.

Una de las actividades más importantes que tenemos encomendadas las Cámaras de Comercio es el fomento de la actividad exportadora de las empresas españolas, por ello, es un placer recibir al Esquema de la OCDE Frutas y Hortalizas en la Cámara de Comercio de Sevilla, que tanto contribuye a la facilitación del comercio.

Me consta que la Administración española, en este caso el Ministerio de Economía, Industria y Competitividad, y en concreto nuestros amigos de la Dirección Territorial de Comercio, y de la Subdirección General de Inspección en Madrid, trabajan en post de facilitar las operaciones comerciales, en dinamizarlas, promoverlas y en reforzarlas. Siempre nuestra casa está abierta para ellos, y más en este caso, para un objetivo tan ligado a nuestros propios objetivos como Cámara de Comercio.

Cuando me han explicado en qué consiste exactamente este foro: el progresar en la normalización de las frutas y hortalizas, y en la interpretación de estas normas, para lograr un lenguaje común entre operadores con la finalidad de que la distancia no sea un impedimento para que las operaciones comerciales se produzcan sin problemas, me comentaban que las normas de calidad comercial son un lenguaje común, para el comercio internacional, y que es una manera de comunicarse entre las partes contratantes de la operación comercial, un lenguaje imprescindible. Pero, me comentaban, que tan importante como el lenguaje es tener un buen diccionario. Y me dicen que Ustedes se encargan de editar esos diccionarios con sus folletos interpretativos de las normas.

Y, aunque ya ustedes lo sabrán déjenme recordarles la importancia de su trabajo minucioso y detallado, ya que gracias al desarrollo y la elaboración de folletos interpretativos y guías de inspección, se hace posible enormemente el comercio internacional de frutas y hortalizas. ¿Imaginan el comercio internacional de frutas sin normas y sin reglas? Sería caótico sin duda.

Según datos del Ministerio de Economía, Industria y Competitividad de España, las exportaciones agroalimentarias supusieron en 2016 fueron de 44.542 millones de euros, es decir, representaron el 17.5% de las exportaciones totales. Dentro de las exportaciones agroalimentarias, las exportaciones de fruta y hortalizas significaron el 22,5%. Los datos hablan por sí solos sobre la gran importancia que tiene el sector exterior de frutas y hortalizas para la economía española. Por lo tanto lo que Vás van a decidir aquí sin duda tiene trascendencia a nivel de los distintos sectores implicados y muchas decisiones se traducen en cifras de negocio.

Reitero mi bienvenida y confío que van a trabajar bien y a gusto en nuestra casa, que estos días es la suya.
Opening address 2

by José Álvarez Calderón, Regional Trade Director in Andalucía - ICEX

Mr Alvarez Calderon (ICEX) took the floor to welcome delegates. He expressed his satisfaction for having the meeting in Andalusia. He stressed the importance of Spain as a major producer and exporter of fresh fruit and vegetables. Indeed, Andalusia is leader in the production of fresh produce. Their exports target not only the EU but also third countries. As an example, he mentioned that Spain exported EUR 8 300 million of fruits in 2017. He also reminded delegates that Spain is committed to the work of the Scheme and that, back in 2013, the photos for the peach brochure were taken here in Seville. To conclude he wished all delegates a fruitful meeting and unforgettable stay in Seville.
Section summaries
SECTION I
PRESENTATION OF OTHER ORGANISATIONS

The first section is intended to summarise the latest developments in the Fruit and Vegetables quality inspection systems and standardisation activities at the international level. The representative of the WHO/FAO Codex Alimentarius Commission introduced their activities and the latest developments in their programmes of work.

Presentations in the Section:

- Information on recent activities of the Codex Alimentarius Commission on the Standardization of Fresh Fruits and Vegetables
Information on recent activities of the Codex Alimentarius Commission on the standardization of fresh fruits and vegetables

by Ms. Lingping Lingping Zhang, Codex Secretariat

Abstract

Ms. Lingping Zhang from CODEX thanked OECD for the invitation and provided delegates a brief summary of current activities of the CODEX Secretariat; in particular on the outcome of the 20th Session of the Codex Committee on Fresh Fruits and Vegetables held in Uganda on 2-6 October 2017. CODEX also informed delegates of the status of the aubergine, kiwi, garlic, ware potatoes and fresh dates standards. The aubergine standard has been put forward for adoption at step 8, while the other standards is currently at steps 7, 6, 5 and 3 respectively. New work is under development for yam, onions and shallots, and berry fruits.

On other issues, CODEX will be further discussing the glossary of terms associated with the proposed standard layout as well as other terms used in Codex standards for fresh fruits and vegetables. The exact time and venue of the next 21st Session of the Codex Committee on Fresh Fruits and Vegetables will be announced in due course.
Information on recent activities of the Codex Alimentarius Commission on the standardization of fresh fruits and vegetables

Presentation by Ms. Lingping Lingping Zhang, Codex Secretariat
Information on recent activities of the Codex Alimentarius Commission on the standardization of fresh fruits and vegetables

20th Session of the Codex Committee on Fresh Fruits and Vegetables, in Uganda, 2 - 6 October 2017

The most contentious issue at CCFFV20

- Provisions concerning tolerances: Inclusion of tolerances for decay, soft rot and internal breakdown in “Extra” Class

STANDARDS DEVELOPMENT eight-step procedure

- Aubergines: 8
- Garlic: 6
- Kiwifruit: 7
- Ware potatoes: 5
- Fresh dates: 3

Aubergines

- After extensive discussions, CCFFV20 agreed to retain Section 4.1.1 “Extra” Class and to include tolerances for decay of 1% in “Extra” Class. The Committee noted the reservation of EU and its Member States, Colombia, Morocco and Thailand.
- CCFFV21 agreed to forward the draft Standard for Aubergines to CAC41 for adoption at Step 8

Garlic

- CCFFV20 could not agree on the inclusion of smoked garlic in the standard
- CCFFV20 noted that the standard still required considerable review and was not ready for advancement in the Step procedure
- CCFFV20 agreed to return the draft Standard to Step 6 for further revision, comments and consideration by CCFFV21
Kiwifruit
- CCFFV20 could not agree on the allowance for tolerance for decay, soft rot and internal breakdown in Class I and “Extra” Class
- CCFFV20 agreed to hold the standard at Step 7 and that no further comments would be requested nor discussion on the standard would be held at its next session with the exception of the discussion on tolerances for decay, soft rot and internal breakdown

Ware potatoes
- CCFFV20 agreed although some issues needed to be further discussed, especially minimum requirements and Table of tolerances, substantial progress had been made on the standard; therefore, the document was ready to progress in the Step Procedure.
- CCFFV20 agreed to forward the proposed draft Standard to CAC for adoption at Step 5

Fresh dates
- CCFFV20 agreed although some issues needed to be further discussed, especially minimum requirements and Table of tolerances, substantial progress had been made on the standard; therefore, the document was ready to progress in the Step Procedure.
- CCFFV20 agreed to return the proposed draft Standard to Step 3, for further revision and consideration by CCFFV21

NEW WORK ON STANDARD DEVELOPMENT
- CCFFV20 agreed to recommend approval of three proposals on new work i.e. yam, onions and shallots, and berry fruits.

SUPPORTING DOCUMENT FOR STANDARD DEVELOPMENT
Proposed Standard Layout for Codex Standards for Fresh Fruits and Vegetables:

5.1 *Extra* Class
- Per cent 3.0% by number or weight of fruit of product not meeting the requirements of the class, but meeting those of Class I. Included therein is one percent 3.0% by number or weight of fruit of product with decay, soft internal breakdown, and damage from minor pests and insect pests.

CCFFV20 noted that the layout was a guidance document to facilitate development and discussion of standards for fresh fruits and vegetables, and did not have any status in Codex (i.e. it was not a Codex text) and thus did not require approval or adoption by CAC but only the agreement of CCFFV.

SUPPORTING DOCUMENT FOR STANDARD DEVELOPMENT
Glossary of Terms:
- CCFFV20 agreed to further develop the discussion paper on glossary of terms associated with the proposed standard layout as well as other terms used in Codex standards for fresh fruits and vegetables for consideration at CCFFV21.
OTHERS

- Revision of the meeting interval for CCFFV: every 12 months
- Post-harvest treatment for fresh fruits and vegetables for referral to CCFA
- Use of effective communicative tools and quality of the simultaneous translation

The exact time and venue of CCFFV21 would be determined in due course.
SECTION II
FRUIT SECTOR IN SPAIN

The aim of this section is to leave the host the opportunity to widely present its fruit and vegetables sector.

Presentations in the Section:

- Spanish fresh fruit and vegetables sector
- Spanish Citrus industry – Production, challenges and perspectives
Spanish fresh fruits and vegetables sector

by Ms Leonor de Castro, Subdirección General de Frutas y Hortalizas y Vitivinicultura, Dirección General de Producciones y Mercados Agrarios, Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente

Abstract

The fruit and vegetables sector plays a key role in both the Spanish agriculture and the Spanish economy as a whole, as well as in terms of social and environmental value.

Spain produces more than 80 different products. Production uses a wide variety of systems: intensive, extensive, dry farming, irrigated land, outdoors, protected, and greenhouses. Production is located mainly in the south and Mediterranean zones of Spain but can be found in most of the Spanish regions where is a main source of income, generating 100 000 indirect employments related to handling and packaging.

In 2017, production amounted to EUR 14 500 million, with 50% coming from crop production. The sector is continuously increasing its economic value, and Spain is the main fruit and vegetables producer of the European Union and the 5th worldwide (in terms of value).

Around 50% of production is exported, but in some particular cases even more than 70% are destined to foreign markets. The main products that are exported are vegetables from greenhouses (tomatoes, pepper and cucumber), citrus fruit, peaches and nectarines. From exports, 93% go to the EU market (Germany, France, United Kingdom and the Netherlands).

Imports are modest, but with an increasing trend. Nowadays, 45% of imports have EU origin (France and Portugal mainly) and 55% come from third countries (Morocco, USA, Mercosur). The main imported products are potatoes, tomatoes, green beans, banana, pineapple and kiwifruit.

Farm structure in Spain has a total of 216 000 holdings of which 82% focus on fruits and 18% on vegetables. Amongst farms, 74% have less than 16 ha, 16% go from 16 - 40 ha, and only 3% possess more than 100 ha.

In 2016, a total of 896 518 ha were dedicated to the cultivation of citrus fruit, tropical fruit, fresh fruit, table grape sand bananas. Integrated Production covers 119 763 ha (8% of F&V Surface) distributed as follows: Fresh fruit 41%, Citrus fruit 29%, Tropical fruit 18%, Vegetables 11%, Nuts 8%, and Bananas 3%. Another important aspect of the Spanish fruit and vegetable sector is a positive trend on Organic Farming. Currently, 120 694 ha (8% of F&V Surface) are devoted to organic production, distributed as follows: Nuts 78%, Vegetables 10%, Citrus fruit 6%, Fresh fruit 4%, Tropical fruit 2%, and Bananas 2%.

It is also worth highlighting that in Spain, producer members are obliged to market their entire production through the Producers Organisations (POs). Indeed, 50% of production is marketed through POs.
Spanish fresh fruits and vegetables sector

Presentation by Ms Leonor de Castro, Subdirección General de Frutas y Hortalizas y Vitivinicultura, Dirección General de Producciones y Mercados Agrarios, Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente
INTRODUCTION

The F&V sector plays a key role in both the Spanish agriculture and the Spanish economy as a whole, as well as in terms of social and environmental value.

Diversity and wide range of products:
- More than 80 different products.
- The production is situated mainly in the south and mediterranean zone of Spain but is present in most of the Spanish regions where is a main source of income.
FRUIT AND VEGETABLES SECTOR IN SPAIN

**MAIN ECONOMIC FIGURES**

- **ECONOMIC VALUE**

14.500 M€ in 2017

- 50% of Crop Production
- 30% of Agricultural Production (including crop and animal production)

*Fuente: SG Estadística, MAPAMA y Eurostat*

**EVOLUTION OF THE F&V PRODUCTION IN SPAIN (M€)**

- **Vegetables**
- **Potatoes**
- **Fruits**
- **TOTAL**

With an increasing economic value, **SPAIN** is the main F&V producer of the European Union and the 5th worldwide (in terms of value).

**EMPLOYMENT**
• Main agricultural sector in workforce.
• 230,000 AWU (Agricultural Work Unit – EU System) employs about 24% of the total of the agricultural sector.
• Also 100,000 indirect employments related to handling and packaging.

**Fruit and Vegetables Sector in Spain**

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>EMPLOYMENT (AWU)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olive oil</td>
<td>214,800</td>
<td>22%</td>
</tr>
<tr>
<td>Beef and milk products</td>
<td>103,000</td>
<td>11%</td>
</tr>
<tr>
<td>Cereals and oilseeds</td>
<td>91,900</td>
<td>8%</td>
</tr>
<tr>
<td>Nuts and processed</td>
<td>30,800</td>
<td>3%</td>
</tr>
<tr>
<td>Total</td>
<td>370,500</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: National Statistics Institute (Spain)

**FARM STRUCTURE**

- 216,000 holdings (22% total)
  - 82% fruits
  - 18% vegetables
- Splitting up and small size
  - 74% < 16 ha
  - 16% de 16 - 40 ha.
  - 3% > 100 ha.

**SURFACE**

- 900,000 ha:  
  - 60% fruits
  - 40% vegetables
- 630,000 ha nuts.
- 72,000 ha potatoes.
- 9% of cultivated surface.
- F&V: 16% dry land, 73% outdoor irrigated land, 12% protected irrigated land.
- Nuts: 91% dry land.
- Different trends depending on the year.
### FRUIT AND VEGETABLES SECTOR IN SPAIN

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</tr>
</thead>
<tbody>
<tr>
<td>Vegetables</td>
<td>669.444</td>
<td>654.850</td>
<td>662.504</td>
<td>647.850</td>
<td>635.850</td>
<td>627.850</td>
</tr>
<tr>
<td>Fruit</td>
<td>556.844</td>
<td>527.850</td>
<td>532.850</td>
<td>515.850</td>
<td>510.850</td>
<td>488.850</td>
</tr>
<tr>
<td>Bananas</td>
<td>7.117</td>
<td>7.116</td>
<td>7.115</td>
<td>7.114</td>
<td>7.113</td>
<td>7.112</td>
</tr>
<tr>
<td>Nuts</td>
<td>646.026</td>
<td>631.033</td>
<td>630.106</td>
<td>636.148</td>
<td>630.674</td>
<td>657.611</td>
</tr>
<tr>
<td>Total</td>
<td>1,216,023</td>
<td>1,183,823</td>
<td>1,174,170</td>
<td>1,182,970</td>
<td>1,178,628</td>
<td>1,174,518</td>
</tr>
</tbody>
</table>

### PRODUCTION

- Around 27 million tonnes per year.
- 52% vegetables, 40% fruits, 8% potatoes.
- Spain is the main EU F&V producer accounting with 26% of the total production.
- Spain is the 5th main world producer with 3% of world production (after China, India, USA and Turkey).

### PRODUCTION (tonnes)

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Potatoes</td>
<td>2.455.100</td>
<td>2.200.800</td>
<td>2.199.600</td>
<td>2.544.000</td>
<td>2.245.600</td>
<td>2.244.335</td>
</tr>
<tr>
<td>Citrus fruit</td>
<td>5.736.197</td>
<td>5.567.672</td>
<td>6.330.040</td>
<td>7.047.335</td>
<td>5.970.493</td>
<td>7.085.819</td>
</tr>
<tr>
<td>Non citrus fruit</td>
<td>2.928.782</td>
<td>2.552.100</td>
<td>2.669.840</td>
<td>3.100.332</td>
<td>3.000.617</td>
<td>2.854.690</td>
</tr>
<tr>
<td>Tropical fruit</td>
<td>225.278</td>
<td>178.139</td>
<td>149.956</td>
<td>169.324</td>
<td>164.988</td>
<td>183.521</td>
</tr>
<tr>
<td>Table grapes</td>
<td>241.209</td>
<td>254.258</td>
<td>232.965</td>
<td>280.670</td>
<td>251.786</td>
<td>271.602</td>
</tr>
<tr>
<td>Nuts</td>
<td>452.410</td>
<td>441.576</td>
<td>386.219</td>
<td>450.504</td>
<td>445.511</td>
<td>438.579</td>
</tr>
</tbody>
</table>

### GEOGRAPHIC DISTRIBUTION OF F&V PRODUCTION (volume)

- **Vegetables**: 52%
- **Potatoes**: 9%
- **Citrus Fruit**: 24%
- **Fruits**: 11%
- **Tropical Fruit**: 1%
- **Table Grapes**: 1%
- **Bananas**: 1%
- **Nuts**: 2%

---

**Source:** Anuario de Estadística MAPAMA
- 568 recognised for the F&V sector (EU regulation).
- Objectives: concentration of supply, adaptation of production to demand, optimising production costs.
- Producer members are obliged to market their entire production through the PO.
- 50% of production is marketed through POs.

F&V is one of the main economic sectors in the total Spanish exports.
F&V is the agri-food and fisheries Spanish exports leader.

- F&V is one of the main economic sectors in the total Spanish exports.
- F&V is the agri-food and fisheries Spanish exports leader.
Spain is the main EU exporter and the 3rd world exporter (after China and USA).

Positive trend.

Around 50% of production is exported; more than 70% in certain products such as vegetables from greenhouse, lettuce, or lemon.

Main exported product: vegetables from greenhouse (tomatoes, pepper and cucumber), citrus fruit, peaches and nectarines.

Exports

93% of destination of exports are the EU market (Germany, France, United Kingdom and the Netherlands)

Imports are less important than exports.

Increasing trend.

45% of imports have EU origin (France and Portugal mainly) and 55% third countries (Morocco, USA, Mercosur).

Main imported products: potatoes, tomatoes, green beans, banana, pineapple and kiwi fruit.
Average of total imports, EU intrasector.

**Imports**

- **POSITIVE** trade balance (around 10,000 million €); increasing trend.
- F&V is the main contributor to the positive balance of the agri-food sector: 30% of exports, 8% of imports; 358% coverage ratio.
- F&V exports means 5% of total Spanish exports.

**Quality Aspects**

- Compliance with EU marketing standards (1 general MS + 10 specific MS), CEPE – ONU y Codex Alimentarius.
- Innovation to introduce plant selection with allows offer adaptation to new demands of consumers: new products, season enlargement,...
- EU Quality Schemes: Protected Designation of Origin (PDO) and Protected Geographical Origin (PGI): 25 for fruits and 19 for vegetables (24% of total).

**Trade Balance**

FRUITS

INTEGRATED PRODUCTION: 110,763 Ha (8% of F&V Surface) distributed as follows:
- Fresh fruit 41%
- Citrus fruit 19%
- Tropical fruit 18%
- Vegetables 2%
- Nuts 4%
- Banana 3%

ORGANIC FARMING: 120,694 Ha (8% of F&V Surface) distributed as follows:
- Nuts 78%
- Vegetables 10%
- Citrus fruit 6%
- Fresh fruit 4%
- Tropical fruit 2%
- Banana 2%

POSITIVE TREND

ENVIRONMENTAL ASPECTS

ENVIRONMENTALLY FRIENDLY PRODUCTION

THANK YOU VERY MUCH FOR YOUR ATTENTION
Spanish Citrus industry – Production, challenges and perspectives

by Ms Immaculada Sanfeliu Felui, Head of Comité de Gestión de Cítricos

Abstract

In 2017 the world produced 124.25 million tonnes of citrus. From those, 54% were oranges, 26% tangerines, 13% lemons and 7% grapefruit.

In terms of producing countries, China has the lead generating 27% of all citrus production, followed by Brazil (14%), India (8%) and Spain (6%). This said, the last forecast for 2018 warned of a 21% fall in production with respect to the previous year. Pests and adverse climate situations have contributed to the production shortage around the globe.

Although Spain is the 4th or 5th global producer, it is the first exporter of oranges and tangerines worldwide. Exporting on average 3,704,000 tonnes in 2017 and dedicating a total of 299,518 ha to cultivate citrus. From those, 50% are used for oranges, 37% to tangerines, and 13% to lemons.

Inside Spain, Valencia produces 54% of all Spanish citrus production, followed by Andalusia (28%), Murcia (14%), Cataluña (4%) and the rest in Baleares and other regions.

In the case of the European Union, Spain supplies 80% of tangerines and 69% of oranges making it the largest supplier of citrus to the continent. The main destination markets are Germany (28%), France (23%), The UK (9%) and the Netherlands (6%).

Outside the EU, Spain’s main destination markets are Switzerland, the US and Canada. The key months for exports go from November to February every year.

In monetary terms, citrus exports amounted to EUR 3,181 million last year.
Spanish Citrus industry – Production, challenges and perspectives

Presentation by Ms Immaculada Sanfeliu Felui, Head of Comité de Gestión de Cítricos
Inmaculada Sanfeliu Feliu

Jornada cítricos Innovagri
24 de abril de 2018
Autoridad Portuaria de Valencia
Salón de Actos

LA CITRICULTURA EN ESPAÑA
PROBLEMÁTICA, RETOS Y PERSPECTIVAS

PRODUCCIÓN MUNDIAL DE CÍTRICOS

PRODUCCIÓN MUNDIAL DE CÍTRICOS POR PRODUCTO

PRODUCCIÓN MUNDIAL DE CITRICOS 2016/2017: 124,25 Millones de T
27% CHINA, 20% PAÍSES MEDITERRÁNEOS, 14% BRASIL, 8% INDIA

HEMISFERIO SUR (< 1/3) 26,40 Mill. T
HEMISFERIO NORTE (> 2/3) 97,85 Mill. T

PRODUCCIÓN MUNDIAL DE CITRICOS 2016/2017: 124,25 Millones de T
27% CHINA, 14% BRASIL, 8% INDIA, 6% ESPAÑA, 6% EE.UU., 5% MÉXICO

Evolución de la producción de cítricos de EE.UU.
Previsión de cosecha EE.UU. 2017/2018: 6,16 Mill. Tm, reducción 21% respecto a 2016/2017

U.S. citrus production declining
Million tons

0 1 2 3 4 5 6 7 8 9 10 11 12

Oranges, Grapefruit, Tangerines/mandarines, T. lemmons, T. tangor

Nota: CGC, National Agriculture Statistics Service, Crop Production, March 2018 issue, and Citrus Fruit Summary, selassie

España, 4° productor mundial de cítricos y 1° exportador mundial de cítricos en fresco; 1° exportador mundial de naranjas y mandarinas; 2° exportador mundial de limón y 6° de pomelo.

Producción y Exportación de España
Total Cítricos 2014/2015 (en 1.000 T)

<table>
<thead>
<tr>
<th>VARIEDADES</th>
<th>VOLUMENES REALIZADOS (en miles de T)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Producción</td>
</tr>
<tr>
<td>GR. MANDARINAS</td>
<td>2.371,7</td>
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<tr>
<td>NARANJA</td>
<td>3.499,0</td>
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<tr>
<td>TOTAL MA.+NAR</td>
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<tr>
<td>LIMÓN</td>
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<td>POMELO</td>
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<tr>
<td>OTROS</td>
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<td>TOTAL GENERALES</td>
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</table>

Producción y Exportación de España
Total Cítricos 2015/2016 (en 1.000 T)

<table>
<thead>
<tr>
<th>VARIEDADES</th>
<th>VOLUMENES REALIZADOS (en miles de T)</th>
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<tr>
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Producción y Exportación de España
Total Cítricos 2016/2017 (en 1.000 T)

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<th>VARIEDADES</th>
<th>VOLUMENES REALIZADOS (en miles de T)</th>
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<td>LIMÓN</td>
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<td>POMELO</td>
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España: Evolución Producción Cítricos

Exportación de Cítricos de España (T)

Encuesta sobre Superficies y Rendimientos de Cultivos en España (ESYRCE)

España: Superficie Citrícola

España: Zonas de Producción Cítrica

ESPAÑA: ZONAS DE PRODUCCIÓN DE NARANJA

<table>
<thead>
<tr>
<th>CC.AA.</th>
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<tbody>
<tr>
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<td>Andalucía</td>
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<td>Murcia</td>
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<td>Cataluña</td>
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ESPAÑA: ZONAS DE PRODUCCIÓN DE MANDARINA

<table>
<thead>
<tr>
<th>CC.AA.</th>
<th>SUP (ha)</th>
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<tbody>
<tr>
<td>Com. Valenciana</td>
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<tr>
<td>Andalucía</td>
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<td>Murcia</td>
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<td>Cataluña</td>
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ESPAÑA: ZONAS DE PRODUCCIÓN DE LIMÓN

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<tr>
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<td>Murcia</td>
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<td>Cataluña</td>
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Exportación de Cítricos de España (1849-2016/17)

Producción y Exportación de España Total Cítricos 2014/2015 (en 1.000 T)

<table>
<thead>
<tr>
<th>VARIEDADES</th>
<th>VOLUMENES REALIZADOS (en miles de T)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Producción</td>
</tr>
<tr>
<td>GR. MANDARINAS</td>
<td>2.371.7</td>
</tr>
<tr>
<td>NARANJA</td>
<td>3.499.0</td>
</tr>
<tr>
<td>TOTAL MA.+NAR</td>
<td>5.870.7</td>
</tr>
<tr>
<td>LIMÓN</td>
<td>1.076.5</td>
</tr>
<tr>
<td>POMELO</td>
<td>77.9</td>
</tr>
<tr>
<td>OTROS</td>
<td>4.5</td>
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<tr>
<td>TOTAL GENERAL</td>
<td>7.031.6</td>
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### Producción y Exportación de Naranjas de España

#### GRUPO MANDARIN

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<th>VARIEDADES</th>
<th>PRODUCCIÓN (en miles de t)</th>
<th>PÉRDIDAS (en miles de t)</th>
<th>RETRASO (en miles de t)</th>
<th>CONSUMO (en miles de t)</th>
<th>INDUSTRIA (en miles de t)</th>
<th>EXPORTACIÓN (en miles de t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valencia Late</td>
<td>1.263.300</td>
<td>41.3</td>
<td>1.545</td>
<td>54.0</td>
<td>117.3</td>
<td>78.6</td>
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<tr>
<td>Valencia Invierno</td>
<td>1.545.000</td>
<td>41.3</td>
<td>1.545</td>
<td>54.0</td>
<td>117.3</td>
<td>78.6</td>
</tr>
<tr>
<td>Valencia Temprana</td>
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<td>1.545</td>
<td>54.0</td>
<td>117.3</td>
<td>78.6</td>
</tr>
<tr>
<td>Valencia Residua</td>
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<td>78.6</td>
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#### OTROS PAÍSES MEDITERRÁNEOS

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<th>VARIEDADES</th>
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<th>RETRASO (en miles de t)</th>
<th>CONSUMO (en miles de t)</th>
<th>INDUSTRIA (en miles de t)</th>
<th>EXPORTACIÓN (en miles de t)</th>
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<td>78.6</td>
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<tr>
<td>Grecia</td>
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<td>1.545</td>
<td>54.0</td>
<td>117.3</td>
<td>78.6</td>
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#### TOTAL NARANJAS

<table>
<thead>
<tr>
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<th>PÉRDIDAS (en miles de t)</th>
<th>RETRASO (en miles de t)</th>
<th>CONSUMO (en miles de t)</th>
<th>INDUSTRIA (en miles de t)</th>
<th>EXPORTACIÓN (en miles de t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.514.000</td>
<td>1.634</td>
<td>1.545</td>
<td>54.0</td>
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<td>78.6</td>
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</tbody>
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### Exportación Cítricos de España

#### 2014/2015 (en 1.000 T)

<table>
<thead>
<tr>
<th>VARIABDDES</th>
<th>TOTAL UE15</th>
<th>TOTAL UE13</th>
<th>TOTAL UE28</th>
<th>TOTAL EUROPA OCCIDENTAL</th>
<th>TOTAL AMÉRICA DEL NORTE</th>
<th>TOTAL MÁS CANADÁ</th>
<th>TOTAL RESTO MUNDIAL</th>
<th>TOTAL EXPORTA</th>
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<tbody>
<tr>
<td>Naranja</td>
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<td>1.027.000</td>
<td>1.346.000</td>
<td>1.381.000</td>
<td>3.591.000</td>
<td>6.430.000</td>
<td>1.881.000</td>
<td>4.492.000</td>
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<tr>
<td>Mandarina</td>
<td>1.571.000</td>
<td>674.000</td>
<td>897.000</td>
<td>958.000</td>
<td>2.395.000</td>
<td>3.520.000</td>
<td>1.023.000</td>
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<tr>
<td>Limón</td>
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<td>500.000</td>
<td>720.000</td>
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<td>1.920.000</td>
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<td>837.000</td>
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<tr>
<td>Pomelo</td>
<td>580.000</td>
<td>230.000</td>
<td>350.000</td>
<td>382.000</td>
<td>990.000</td>
<td>1.450.000</td>
<td>417.000</td>
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<tr>
<td>TOTAL GÉNERO</td>
<td>5.723.000</td>
<td>2.181.000</td>
<td>3.543.000</td>
<td>3.683.000</td>
<td>9.495.000</td>
<td>13.340.000</td>
<td>3.781.000</td>
<td>8.176.000</td>
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</table>

### Producción y Exportación de Naranjas de España 2014/2015 (en 1.000 T)

<table>
<thead>
<tr>
<th>VARIEDADES</th>
<th>PRODUCCIÓN (en miles de t)</th>
<th>PÉRDIDAS (en miles de t)</th>
<th>RETRASO (en miles de t)</th>
<th>CONSUMO (en miles de t)</th>
<th>INDUSTRIA (en miles de t)</th>
<th>EXPORTACIÓN (en miles de t)</th>
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</thead>
<tbody>
<tr>
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<td>1.322.000</td>
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<td>958.000</td>
<td>958.000</td>
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<tr>
<td>Valencia Temprana</td>
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<tr>
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<tr>
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<td>958.000</td>
<td>958.000</td>
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<th>CONSUMO (en miles de t)</th>
<th>INDUSTRIA (en miles de t)</th>
<th>EXPORTACIÓN (en miles de t)</th>
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#### TOTAL NARANJAS

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<th>INDUSTRIA (en miles de t)</th>
<th>EXPORTACIÓN (en miles de t)</th>
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<tbody>
<tr>
<td>8.176.000</td>
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<td>3.543.000</td>
<td>3.683.000</td>
<td>9.495.000</td>
<td>13.340.000</td>
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**Exportación de Cítricos de España por País Tercero y Variedad 14/15 (en Tn)**

<table>
<thead>
<tr>
<th>Año/Tipo</th>
<th>CLAUDIA</th>
<th>ATUALI</th>
<th>PERÚ</th>
<th>CHILE</th>
<th>MEXICO</th>
<th>TOTAL</th>
<th>CAMPAÑA 13/14</th>
<th>CAMPAÑA 14/15</th>
<th>CAMPAÑA 15/16</th>
<th>CAMPAÑA 16/17</th>
<th>CAMPAÑA 17/18</th>
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<th>CAMPAÑA 20/21</th>
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<tbody>
<tr>
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<td>12.360</td>
<td>12.640</td>
<td>12.930</td>
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<td>64.990</td>
<td>57.750</td>
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<td>64.990</td>
<td>70.150</td>
<td>71.550</td>
<td>76.800</td>
<td>79.800</td>
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**Exportación total de cítricos de España 2016/2017**

<table>
<thead>
<tr>
<th>Año/Tipo</th>
<th>CAMP. 13/14</th>
<th>CAMP. 14/15</th>
<th>CAMP. 15/16</th>
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<tr>
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<td>93.618</td>
<td>93.618</td>
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<td>93.618</td>
<td>93.618</td>
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**Exportaciones españolas de cítricos a EEUU. (en Tn)**

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<th>CAMP. 14/15</th>
<th>CAMP. 15/16</th>
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<th>CAMP. 18/19</th>
<th>CAMP. 19/20</th>
<th>CAMP. 20/21</th>
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</table>
Calendario de las Exportaciones de España (en 1.000 T)

<table>
<thead>
<tr>
<th>CAMPAÑA</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
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GRUPO MANDARINAS

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LIMONES

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TOTAL GENERAL

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EVOLUCIÓN EXPORTACIÓN DE CÍTRICOS EN ESPAÑA EN VALOR

AÑO 2000

<table>
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<tr>
<th>Comunidad</th>
<th>2000</th>
<th>2017</th>
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<td>1.539,12</td>
<td>2.132,20</td>
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<tr>
<td>Murcia</td>
<td>248,81</td>
<td>540,04</td>
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<td>Andalucía</td>
<td>81,40</td>
<td>297,46</td>
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<td>38,72</td>
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<td>Total general</td>
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Valor monetario en Millones de euros

GRACIAS
SECTION III
STRUCTURE AND ACTIVITIES OF INSPECTION IN COUNTRIES

The section is intended to provide an overview of the national Fruit and Vegetables quality inspection systems in some of the Scheme participating countries. Spain, the host of the HNIS meeting, gave a comprehensive overview of their national system.

Presentations in the Section:

- Spanish fresh fruit and vegetables control system
Spanish fresh fruit and vegetables control system

by Ms Maria de Armas, Ministry of Economic Affairs and Competitiveness

Abstract

Ms de Armas provided a comprehensive summary of the Spanish fruit and vegetables national inspections system, outlining the competent authorities' role, the various national provisions, conformity controls according to the European Commission’s Implementing Regulation (EU) No 543/2011, as well as their software support tools.

Spain is integrated by 17 Autonomous Communities and two Autonomous Cities; it is one of the most decentralized countries in Europe. Accordingly, conformity controls are shared by the Central Administration, the SOIVRE Inspection body and the Regional Administrations of 17 Autonomous Communities that rely on Regional Ministries of Agriculture and Regional Ministries of Health and Consumption to ensure compliance.

The SOIVRE inspection body is the coordinating authority. The General Directorate of Trade Policy and Competitiveness is the single, competent authority responsible for coordination in the area of checks on conformity to marketing standards (R EU no 543/2011). SOIVRE carries out conformity controls on FFV at EU internal market level (expeditions to EU Member states), at export level (to third countries) and at import level (from third countries).

The inspection bodies of the Autonomous Communities carry out conformity controls: at the expedition and distribution levels, i.e. at producers and packers and wholesalers (Regular controls by the Regional Ministries of Agriculture); and at the retailer level (occasional controls by the Regional Ministries of Health and Consumption and the Municipalities). Spain has also regional collaboration agreements (CCAA) that help handle in a timely and efficient manner the huge number of inspections.

The SOIVRE Inspection Body has its headquarters in Madrid and possesses 31 offices spread along the Spanish territory, mainly at the so-called “Border facilities for Goods and Foods Control”. SOIVRE has also inspectors working as commercial counsellors abroad. SOIVRE counts with 50 inspectors and 84 technical inspectors. SOIVRE also counts with laboratory analysts, administrative and support staff that complete their human resources.

The Spanish traders database cover four types of traders: packers, wholesalers at origin, wholesalers at destination, and importers.

The Spanish risk analysis system, which classifies traders as well as the dedicated software support tools, for example the Integrated Inspection System (ESTACICE), a risk analysis application (GARFYH), a database with specific standards or relevant legislation (LEGISLIA) and a database of statistics (Datacomex).
Spanish fresh fruit and vegetables control system

Presentation by Ms Maria de Armas, Ministry of Economic Affairs and Competitiveness
1. FRESH FRUIT AND VEGETABLES PRODUCTION AND TRADE IN SPAIN

Spanish FFV production and trade

- Spain is the largest exporter of FFV of the EU, and the third exporter of the world after China and USA.
- In terms of value Spain is the the main F&B producer of the European Union and the 5th worldwide.

Spanish annual FFV production is around 26,000,000 tons, which is concentrated in the river valleys, the Mediterranean coast and the Canary Islands.

- Citrus fruit: Comunidad Valenciana, Andalucía and Región de Murcia.
- Vegetables: Andalucía, Región de Murcia and C. Valenciana.
- Tomatoes, Almería, C. Valenciana, Región de Murcia and Canary Islands.
- Peaches and nectarines: Sevilla, Región de Murcia, Valencia and Cataluña.
- Apples and pears: Cataluña and Aragón.
- Tropical fruits: Málaga and Canary Islands.

### Exports & expeditions 2017 (thousand tons)

- **Citrus fruit:** 3,624
- **Peach/Nectarine:** 800
- **Watermelon/melon:** 637
- **Strawberry:** 583
- **Apple/pear:** 187
- **Bananas:** 104
- **Table grapes:** 291
- **Persimmon:** 183
- **Total:** 7,482

- **Tomato:** 907
- **Lettuce:** 815
- **Sweet pepper:** 737
- **Cucumber:** 633
- **Onion:** 357
- **Potato:** 283
- **Carrot and roots:** 89
- **Garlic:** 163
- **Total:** 6,004

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Table of contents

1. Fresh fruit and vegetables production and trade in Spain.
2. Conformity controls organization.
3. SOIVRE Inspection body.
5. Software support tools.
Spanish FFV production and trade
Exports. Main countries of destination

- Apple/Pear: 308
- Citrus fruit: 277
- Banana: 325
- Pineapple: 131
- Kiwifruit: 121
- Melon: 131
- Table grapes: 34
- Total: 1,885

- Potato: 728
- Tomato: 144
- Green bean: 90
- Onion: 71
- Sweet pepper: 46
- Lettuce: 24
- Carrot and roots: 11
- Garlic: 8
- Total: 1,770

2. CONFORMITY CONTROLS ORGANIZATION

Spain is integrated by 17 Autonomous Communities and 2 Autonomous Cities; it is one of the most decentralized countries in Europe. Accordingly, conformity controls are shared by:

- The Central Administration:
  - SOIVRE Inspection body.
- The Regional Administrations of 17 Autonomous Communities:
  - Regional Ministries of Agriculture.
  - Regional Ministries of Health and Consumption.

Conformity controls organization

FFV distribution of tasks: **SOIVRE Inspection Body**

- **Coordinating authority.** The General Directorate of Trade Policy and Competitiveness is the single, competent authority responsible for coordination in the area of checks on conformity to marketing standards (R EU no 543/2011).
- SOIVRE is the **inspection body** of the Central Government that carries out conformity controls on FFV:
  - at EU internal market level (expeditions to EU Member states).
  - at export level (to third countries).
  - at import level (from third countries).

Conformity controls organization

FFV distribution of tasks: **Autonomous Communities**

- The inspection bodies of the Autonomous Communities carry out **conformity controls at**:
  - expedition and distribution level: producers and packers and wholesalers (Regular controls by the Regional Ministries of Agriculture).
  - retailer level (occasional controls by the Regional Ministries of Health and Consumption and the Municipalities).
Expeditions to the EU and exports to third countries were 13.400.000 tons in 2017.

Imports from third countries were 3.650.000 tons in 2017.

That means near 33.500 tons to control every day (1.675 trucks).

Conformity controls organization

Work to do

- Expeditions to the EU and exports to third countries were 13.400.000 tons in 2017.
- Imports from third countries were 3.650.000 tons in 2017.
- That means near 33.500 tons to control every day (1.675 trucks).

This work is not possible to be done without:

- A risk analysis that can help to reduce the physical controls.
- A prioritization of controls at origin (aiming controls to growers/packers and wholesalers, at the beginning of the commercial chain).
- A coordination with the regional inspection bodies where mixed competences exist (expeditions – Collaborating Agreements).

Conformity controls organization

Collaborating agreements with CCAA

There are three of them between the Ministry of Economy, Industry and Competitiveness and the Regional Ministries of Agriculture of:

- C. Valenciana (2002) it affects 735 traders.

Total number of registered traders 2.542.

The core element of these agreements is a Monitoring Committee, aiming to harmonize:

- Control procedures of traders.
- Implementation of the risk analysis.
- Annual program of work.
- Traders data base maintenance.
- Sanctioning procedure.
- Sharing of traders to be controlled.
- Approved traders.
- Statistical information.

3.- SOIVRE INSPECTION BODY

SOIVRE Inspection Body

SOIVRE structure

- Headquarters in Madrid: Deputy Directorate of Inspection, Certification and Technical Assistance for Foreign Trade.
- 31 offices spread along the Spanish territory, mainly at the so called “Border facilities for Goods and Foods Control”.
SOIVRE Inspection Body

31 SOIVRE offices

SOIVRE Inspection Body

Hierarchic relationships

State Secretary for Trade

General Directorate for Trade Policy and Competitiveness

Deputy Directorate of Inspection, Certification and Technical Assistance for Foreign Trade

SOIVRE (Territorial and Provincial Trade Directorates)

- Technical staff:
  - Inspectors 50
  - Technical inspectors 84
  - Both of them are civil servants with a university degree and that have passed public examinations.

- Laboratory analysts, administrative and support staff complete the human resources.

SOIVRE Inspection Body

- Commercial quality:
  - Fresh fruits and vegetables, fishery products, olive oil, honey, poultry meat, eggs.

- Safety of industrial products.

- CITES (Administrative authority).

- Other:
  - Hemp seeds control.
  - Organic produce.

SOIVRE Inspection Body

SOIVRE is a multidisciplinary inspection body

Implementing Regulation (UE) No 543/2011

There are two main items regarding the conformity of fruit and vegetables:

- The trader database (art 10). A list of traders with relevant information to the risk analysis.
- The risk analysis (art 11), that results in initial frequencies of checks applied to the traders.

Implementing Regulation (UE) No 543/2011

The risk analysis: a double risk classification

The criteria considered to assess the risk are:

- (initial check frequencies)
  - Position of traders in the marketing chain.
  - Efficiency of the self checking systems.
  - Size of the traders (volume marketed).
- (final check frequencies)
  - Findings made during previous checks.
  - Exceptional circumstances.

Implementing Regulation (UE) No 543/2011

The trader database

There are four types of traders included in the Spanish database:

- Packers.
- Wholesalers at origin.
- Wholesalers at destination.
- Importers.

Retailers are neither included in the database nor in the control programmes.

Implementing Regulation (UE) No 543/2011

The risk analysis: approved traders (art. 12)

- Traders providing special guarantees on conformity to marketing standards are classified in the lowest risk category.
- Approved traders may use the specimen in Annex II in the labelling of each package at the stage of dispatch.

Implementing Regulation (UE) No 543/2011

The risk analysis: self checking system classification

The existence and efficiency of a self checking system determines four levels of risk:

- Type A. Approved traders (minimum risk).
- Type B. Unapproved traders with quality control department which permits documentary auditing.
- Type C. Unapproved traders with an appointed head of quality control.
- Type D. Other traders: unapproved or non registered traders, or traders without an appointed head of quality control (high risk).
Implementing Regulation (UE) No 543/2011

The risk analysis: approved traders (art. 12)

To become an approved trader it is necessary to:

- have inspection staff who have received appropriate training;
- have suitable equipment for preparing and packing produce;
- commit themselves to carry out a conformity check on the goods they dispatch and have a register recording all checks carried out.

Implementing Regulation (UE) No 543/2011

The risk analysis: the size classification

Traders are classified in three groups, based on the annual volume of commercialized products (estimated marketing capacity):

- Less than 3,000 tm/campaign or per year.
- Between 3,000 and 25,000 tm/campaign or per year.
- More than 25,000 tm/campaign or per year (higher level of risk).

Implementing Regulation (UE) No 543/2011

The risk analysis: risk level and frequency of checks

Five levels of risk determining five frequencies of checks:

- Minimum, 1 visit per year.
- Greatly reduced, 1 visit every 6 months.
- Reduced, 1 visit every 3 months.
- Medium, 1 visit per month.
- High, 1 visit every 15 days.

Implementing Regulation (UE) No 543/2011

The risk analysis: changes in the initial frequency

- Internal factors: trader’s particular record (situations that only affect a single trader).
- External factors: specific situations which affect to one or more products and/or specific markets.

The risk analysis: changes in the initial frequency

Internal factors (trader’s particular record):

- If there have been the following findings of NCN,
  - 2 or more NCN (< than 3,000 tm/campaign)
  - 4 or more NCN (3,000 – 25,000 tm/campaign)
  - 6 or more NCN (> than 25,000 tm/campaign)
- the trader involved will pass to the check frequency immediately above.
Implementing Regulation (UE) No 543/2011

The risk analysis: changes in the initial frequency

External factors that affect the produce:
- Initial or closing periods of the campaign
- Specific problems related to a product or to a specific origin (pesticides, negative publicity campaigns, etc.)
- Adverse climatic circumstances in origin (frosts, intense rains, heat waves, etc.)
- Pest and diseases which seriously affect the quality
- Serious problems at the destination markets (oversupplying, decline in consumption, etc.)
- Problems with transport and/or distribution (strikes...)

Implementing Regulation (UE) No 543/2011

The risk analysis: return to the initial frequency

The trader will return to the previous initial frequency:
- automatically, when 3 or more conformity checks without negative results have occurred, or
- through a motivated decision by the competent inspection body:
  - at an individual or collective level, or
  - when the marketing campaign has been concluded.

Implementing Regulation (UE) No 543/2011

Conformity controls at export and import level

- The conformity certificate is compulsory for customs clearance, both for import and export from/to third countries.
- But it is not possible to check every consignment for conformity.
- As a general rule, the basic check frequency is:

<table>
<thead>
<tr>
<th>Minimum % of conformity checks (physical)</th>
<th>Import</th>
<th>Export</th>
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<tbody>
<tr>
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<td>50 %</td>
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Implementing Regulation (UE) No 543/2011

Conformity controls at export level

- The initial minimum frequency of physical controls is based on the type of trader according to its self checking quality system:

<table>
<thead>
<tr>
<th>Minimum % of consignments for conformity checks (physical)</th>
<th>Frequency of visits allocated to the trader</th>
<th>Type A (Approved traders)</th>
<th>Types B, C, D (Unapproved traders)</th>
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<tr>
<td></td>
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<td>60%</td>
<td>70%</td>
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<td>Medium</td>
<td>70%</td>
<td>100%</td>
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Implementing Regulation (UE) No 543/2011

Conformity controls at import level

- The criteria to assess the risk include the country of origin and the type of product.
- Regarding the country of origin, the existence of a conformity certificate issued by a third country where the conformity checks have been approved by the Commission (art. 15), is a factor that reduces the risk of non-conformity.

<table>
<thead>
<tr>
<th>Minimum % of conformity checks (physical)</th>
<th>Approved country's certificate</th>
<th>Other</th>
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<tbody>
<tr>
<td></td>
<td>80 %</td>
<td>100 %</td>
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Implementing Regulation (UE) No 543/2011

Conformity controls at export level

- The final frequency of physical controls is based on the type of product:

<table>
<thead>
<tr>
<th>Minimum % of consignments for conformity checks (physical)</th>
<th>High perishable</th>
<th>Perishable</th>
<th>Less perishable</th>
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<tbody>
<tr>
<td>Products with specific marketing standard</td>
<td>90%</td>
<td>70%</td>
<td>60%</td>
</tr>
<tr>
<td>Products with general marketing standard</td>
<td>80%</td>
<td>60%</td>
<td>50%</td>
</tr>
</tbody>
</table>
Implementing Regulation (UE) No 543/2011

Conformity controls at import level

The final frequency of physical controls is based on the type of product:

<table>
<thead>
<tr>
<th>Minimum % of consignments for conformity checks (physical)</th>
<th>High perishable</th>
<th>Perishable</th>
<th>Less perishable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products with specific marketing standard</td>
<td>95%</td>
<td>85%</td>
<td>75%</td>
</tr>
<tr>
<td>Products with general marketing standard</td>
<td>85%</td>
<td>75%</td>
<td>55%</td>
</tr>
</tbody>
</table>

5. SOFTWARE SUPPORT TOOLS

- Software support tools
  - The Inspectors' Desk
  - Integrated Inspection System ESTACICE
  - GARFYH: the Risk Analysis application
  - LEGISLA

A database of specific legislation, standards, instructions, newsletters, campaigns reports
Software support tools

*Datacomex*

A tool for statistics

Software support tools

*Non conformity notifications*

Software support tools

*Inspectors’ forum*

Thank you very much for your attention.
SECTION IV
FOCUS ON ORGANIC MARKETS

In this section, the representative of the Ministry of Agriculture and Fisheries, Food and Environment gave an overview of the organic market in Spain and abroad.

Presentations in the Section:

- Organic fruit & vegetables sales. Markets, trends and challenges
Organic fruit & vegetables sales. Markets, trends and challenge

by Mr José Miguel González Otero, Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente

Abstract

The evolution of the area used for organic farming in Spain went from less than 500,000 ha in 2001 to up to 2,018,802 ha in 2016, with more than 40,000 operators. 48% of organic production is concentrated in the Andalusia region. The number of organic fruit and vegetables industries grew more than 50% in the 2012-16 period. The trend worldwide is even higher, with subtropical fruits increasing an astonishing 700% in the 2004-16 period. According to some estimates the expenditure on organic fruit and vegetable in Spain would have increased between 2016 and 2017 by 12-16%, confirming a growing demand for organic products.


83% of the world’s organic vegetables are grown in 10 countries. Mexico leads the group with 97,149 ha cultivated, representing 22.21% of the world’s total cultivation areas. Things change if we focus on temperate-zone fruits. In this case, 81.5% of the world’s organic production is grown in 10 countries: China, Italy, Poland, Turkey, France, USA, Bulgaria, Germany, Romania and Spain. In the case of fruits, China holds the biggest share with 38.44% of the total world’s cultivation areas.

As regards trade alone, in Spain exports of organic fruit and vegetable (fresh and processed) represent around 40% of the estimated overall organic products export (the value of the organic products export in 2016 accounted for around EUR 891 million). Import of organic fruit and vegetable (fresh and processed) represent around 20% of the estimated overall organic products import (the value of the organic products import in 2016 accounted for around EUR 560 million).

Value for money is important for the organic food consumer but less important than for the non-organic food consumer. Although quality has a price, there is always a threshold, which varies across countries. Price is also a very important factor in the purchasing decision, but in the case of organic products, it is not necessarily the largest challenge to rising consumption. Another important bottleneck in Spain is, for instance, one the different access models for organic food vis-à-vis to food distribution systems and the sales structures, compared with non-organic food. This makes it difficult for the organic product to be at the disposal of consumers on all supermarket shelves, which is an obstacle to create economies of scale that reduce production unit costs.

This said, there are new channels for purchasing food, for example internet has become a new trend. There is also a growing number of “convinced” organic food consumers. The average per capita yearly expenditure on organic products is around EUR 53.7 at EU level. Still, there are countries like Switzerland that already spend EUR 262/year, or Denmark where expenditure is around EUR 191.
Organic fruit & vegetables sales. Markets, trends and challenge

Presentation by Mr José Miguel González Otero, Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente
A quick glance of the Spanish organic farming.

THE EVOLUTION OF THE AREA UNDER ORGANIC FARMING IN SPAIN

- 2016: 2,018,802 ha

THE EVOLUTION OF THE NUMBER OF OPERATORS INVOLVED IN ORGANIC PRODUCTION IN SPAIN

- 2016: More than 40,000 operators
ORGANIC FARMING, A PRODUCTION SUBJECT TO REGULATION AND CONTROL.

- Current legal framework:
- Also subject to horizontal legislation on agriculture and food (EU and national).
- Art 27 R (EC) Nº 834/2007 establish that MM SS shall set up a system of controls and designate one or more competent authorities responsible for controls... Also art. 27 establish that the competent authority may confer its control competences to one or more control authorities; or delegate control tasks to one or more control bodies.
- New Regulation in few weeks: It shall apply from 1 January 2021.

THE IMPLEMENTATION OF ART. 27 R(EC) 834/2007 IN SPAIN

- CCAA delegado control en ODCC
- CCAA confidido control en AACC
- CCAA la misma autoridad competente ejerce el control

THE PRODUCTION OF ORGANIC FRUIT AND VEGETABLE IN SPAIN

<table>
<thead>
<tr>
<th>PRODUCT LINES</th>
<th>2012</th>
<th>2016</th>
<th>% Δ 2016/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEGETABLES AND LEGUMES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area (ha)</td>
<td>8,340</td>
<td>17,652</td>
<td>114.22%</td>
</tr>
<tr>
<td>Production (MT)</td>
<td>187,125</td>
<td>294,500</td>
<td>57.38%</td>
</tr>
<tr>
<td>FRUIT OF ALL KINDS (DRIED FRUIT INCLUDED)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area (ha)</td>
<td>111,594</td>
<td>155,308</td>
<td>39.17%</td>
</tr>
<tr>
<td>Production (MT)</td>
<td>236,122</td>
<td>253,101</td>
<td>7.19%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>119,834</td>
<td>172,960</td>
<td>44.33%</td>
</tr>
<tr>
<td>Area (ha)</td>
<td>423,245</td>
<td>547,601</td>
<td>29.38%</td>
</tr>
</tbody>
</table>
| Source: MAPAMA

MAIN ORGANIC VEGETABLES IN SPAIN (2016)

<table>
<thead>
<tr>
<th>ORGANIC VEGETABLES</th>
<th>AREA (Hectares)</th>
<th>PRODUCTION (Metric tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh pea</td>
<td>2,837</td>
<td>3,181</td>
</tr>
<tr>
<td>Cauliflower, cabbages and broccoli</td>
<td>1,682</td>
<td>35,269</td>
</tr>
<tr>
<td>Fresh tomatoes</td>
<td>1,526</td>
<td>54,577</td>
</tr>
<tr>
<td>Garlic</td>
<td>789</td>
<td>9,142</td>
</tr>
<tr>
<td>Lettuce</td>
<td>766</td>
<td>5,602</td>
</tr>
<tr>
<td>Peppers</td>
<td>746</td>
<td>37,337</td>
</tr>
<tr>
<td>Asparagus</td>
<td>686</td>
<td>5,602</td>
</tr>
<tr>
<td>Melons</td>
<td>598</td>
<td>13,049</td>
</tr>
<tr>
<td>Other organic vegetables</td>
<td>8,022</td>
<td>130,741</td>
</tr>
<tr>
<td>TOTAL ORGANIC VEGETABLES</td>
<td>17,652</td>
<td>294,500</td>
</tr>
</tbody>
</table>
| Source: MAPAMA

MAIN ORGANIC FRUITS IN SPAIN (2016)

<table>
<thead>
<tr>
<th>ORGANIC FRUITS</th>
<th>SUPERFICIE (Hectares)</th>
<th>PRODUCTION (Metric tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dried fruit</td>
<td>135,660</td>
<td>33,315</td>
</tr>
<tr>
<td>Citrus</td>
<td>10,183</td>
<td>142,418</td>
</tr>
<tr>
<td>Pome and stone fruits</td>
<td>5,649</td>
<td>40,680</td>
</tr>
<tr>
<td>Subtropical fruits</td>
<td>2,912</td>
<td>27,349</td>
</tr>
<tr>
<td>Strawberries and other berries</td>
<td>905</td>
<td>9,159</td>
</tr>
<tr>
<td>TOTAL ORGANIC FRUITS</td>
<td>155,308</td>
<td>253,101</td>
</tr>
</tbody>
</table>
| Source: MAPAMA

THE STRUCTURE OF COMPANIES AND FRUIT AND VEGETABLE PLANTS DEDICATED TO HANDLING AND MARKETING OF ORGANIC FRUIT AND VEGETABLE IN SPAIN HAS INCREASED SIGNIFICANTLY.

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2016</th>
<th>% Δ 2016/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of organic fruit and vegetable industries</td>
<td>1,321</td>
<td>2,065</td>
<td>56.32%</td>
</tr>
<tr>
<td>Organic fruit and vegetable production (MT)</td>
<td>423,245</td>
<td>547,601</td>
<td>29.38%</td>
</tr>
<tr>
<td>Average production per industry (MT)</td>
<td>320,4</td>
<td>265,2</td>
<td>-17.23%</td>
</tr>
</tbody>
</table>
| Source: MAPAMA

Source: MAPAMA
### EVOLUTION OF THE VALUE OF THE SPANISH ORGANIC PRODUCTION AT SOURCE

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
<th>2013</th>
<th>∆ 2016/2015 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O.P. Plant Origin</td>
<td>1,388.2</td>
<td>1,358.2</td>
<td>990.4</td>
<td>906.9</td>
<td>2.2%</td>
</tr>
<tr>
<td>O.P. Animal Origin</td>
<td>319.5</td>
<td>260.8</td>
<td>211.7</td>
<td>138.9</td>
<td>22.5%</td>
</tr>
<tr>
<td>Total value (EUR Million)</td>
<td>1,707.7</td>
<td>1,619.0</td>
<td>1,202.1</td>
<td>1,045.8</td>
<td>5.7%</td>
</tr>
</tbody>
</table>

Source: MAPAMA

### THE AREA USED TO PRODUCE FRUITS AND VEGETABLES HAS GROWN SIGNIFICANTLY IN THE WORLD

<table>
<thead>
<tr>
<th>Year</th>
<th>Temporary Zone Vegetables (Thousands of Hectares)</th>
<th>Subtropical Zone Fruits (Thousands of Hectares)</th>
<th>Citrus (Thousands of Hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>105.2</td>
<td>40.5</td>
<td>28.5</td>
</tr>
<tr>
<td>2008</td>
<td>210.0</td>
<td>138.1</td>
<td>49.8</td>
</tr>
<tr>
<td>2012</td>
<td>237.8</td>
<td>220.9</td>
<td>57.0</td>
</tr>
<tr>
<td>2016</td>
<td>437.4</td>
<td>356.1</td>
<td>90.7</td>
</tr>
</tbody>
</table>

% ∆ 2016/2004: 315.78% 161.93% 779.26% 218.25%

Source: MAPAMA

### THE ORGANIC FRUIT AND VEGETABLE PRODUCTION IN THE E.U. (2016)

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Organic Area of Fruit and Vegetables (Hectares)</th>
<th>% Area</th>
<th>% Area Over the World's Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potatoes</td>
<td>211,000</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>All kinds of fruits</td>
<td>413,100</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>624,100</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Organic area used to produce vegetables, potatoes and strawberries.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potatoes</td>
<td>26,900</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Strawberries</td>
<td>1,200</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Leaf, steam and fruit vegetables</td>
<td>181,000</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>211,100</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>Organic area of all kind of fruits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dried Fruit</td>
<td>234,000</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>Citrus</td>
<td>48,400</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Berries</td>
<td>32,300</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Other Fruits</td>
<td>117,200</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>433,000</td>
<td>13%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Agence BIO FRANCE

### THE 83% OF THE WORLD’S ORGANIC VEGETABLES ARE GROWN IN 10 COUNTRIES

<table>
<thead>
<tr>
<th>Country</th>
<th>% Area/World’s Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>22.21%</td>
</tr>
<tr>
<td>USA</td>
<td>14.74%</td>
</tr>
<tr>
<td>China</td>
<td>14.48%</td>
</tr>
<tr>
<td>Italy</td>
<td>9.98%</td>
</tr>
<tr>
<td>Egypt</td>
<td>5.80%</td>
</tr>
<tr>
<td>France</td>
<td>4.13%</td>
</tr>
<tr>
<td>Spain</td>
<td>3.95%</td>
</tr>
<tr>
<td>Canada</td>
<td>3.02%</td>
</tr>
<tr>
<td>Germany</td>
<td>2.83%</td>
</tr>
<tr>
<td>Poland</td>
<td>1.85%</td>
</tr>
<tr>
<td>Other countries</td>
<td>17.01%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Source: FIBL & IFOAM

### THE 81.5% OF THE WORLD’S ORGANIC TEMPERATE-ZONE FRUITS ARE GROWN IN 10 COUNTRIES

<table>
<thead>
<tr>
<th>Country</th>
<th>% Area/World’s Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>38.44%</td>
</tr>
<tr>
<td>Italy</td>
<td>8.79%</td>
</tr>
<tr>
<td>Poland</td>
<td>7.31%</td>
</tr>
<tr>
<td>Turkey</td>
<td>6.39%</td>
</tr>
<tr>
<td>France</td>
<td>5.32%</td>
</tr>
<tr>
<td>USA</td>
<td>4.58%</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>3.01%</td>
</tr>
<tr>
<td>Germany</td>
<td>2.93%</td>
</tr>
<tr>
<td>Romania</td>
<td>2.50%</td>
</tr>
<tr>
<td>Spain</td>
<td>2.22%</td>
</tr>
<tr>
<td>Other countries</td>
<td>18.51%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Source: FIBL & IFOAM

### JUST A QUICK GLANCE ABROAD…

There has been a significant growth in the area used to produce fruits and vegetables globally. The area used for organic production has grown from 105,200 hectares in 2004 to 437,400 hectares in 2016, representing a growth of 315.78%.

The organic fruit and vegetable production in the E.U. (2016) shows a similar trend, with the area used for production increasing from 210,000 hectares in 2008 to 437,400 hectares in 2016, representing a growth of 161.93%.

The 83% of the world’s organic vegetables are grown in 10 countries, with Mexico leading at 22.21% of the world’s total organic vegetable area.

The 81.5% of the world’s organic temperate-zone fruits are grown in 10 countries, with China leading at 38.44% of the world’s total organic fruit area.
**THE 95.4% OF THE WORLD’S ORGANIC CITRUS ARE GROWN IN 10 COUNTRIES**

<table>
<thead>
<tr>
<th>Country</th>
<th>Area (Hectares)</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>36,125</td>
<td>39.83%</td>
</tr>
<tr>
<td>China</td>
<td>14,403</td>
<td>15.88%</td>
</tr>
<tr>
<td>Mexico</td>
<td>12,570</td>
<td>13.86%</td>
</tr>
<tr>
<td>Spain</td>
<td>10,183</td>
<td>11.23%</td>
</tr>
<tr>
<td>USA</td>
<td>4,919</td>
<td>5.42%</td>
</tr>
<tr>
<td>Ghana</td>
<td>4,105</td>
<td>4.53%</td>
</tr>
<tr>
<td>Morocco</td>
<td>1,526</td>
<td>1.68%</td>
</tr>
<tr>
<td>Greece</td>
<td>1,570</td>
<td>1.73%</td>
</tr>
<tr>
<td>Egypt</td>
<td>1,190</td>
<td>1.31%</td>
</tr>
<tr>
<td>Argentina</td>
<td>1,010</td>
<td>1.11%</td>
</tr>
<tr>
<td>Other countries</td>
<td>3,093</td>
<td>3.41%</td>
</tr>
</tbody>
</table>

Total 90,694 hectares (100.00%)

Source: FIBL & IFOAM

**THE 95.4% OF THE WORLD’S ORGANIC CITRUS ARE GROWN IN 10 COUNTRIES**

**And what about market?**

**SPECIFIC WEIGHT OF THE ORGANIC FRUIT AND VEGETABLE IN THE ORGANIC SHOPPING BASKET VERSUS NON ORGANIC CONSUMPTION**

<table>
<thead>
<tr>
<th>Product Lines Considered</th>
<th>% of the Quota in the Spanish Organic Shopping Basket</th>
<th>% of the Quota in the Spanish Non Organic Shopping Basket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetables, potatoes, potato products</td>
<td>15% - 18%</td>
<td>10% - 12%</td>
</tr>
<tr>
<td>Fruits and derivative products</td>
<td>14% - 17%</td>
<td>9% - 11%</td>
</tr>
<tr>
<td>Dried fruits</td>
<td>1% - 3%</td>
<td>2% - 2%</td>
</tr>
<tr>
<td>Other products of plant origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cereals, rice and derivative products</td>
<td>11% - 14%</td>
<td>9% - 12%</td>
</tr>
<tr>
<td>Oils and fats</td>
<td>7% - 10%</td>
<td>2% - 3%</td>
</tr>
<tr>
<td>Wines and beers</td>
<td>8% - 10%</td>
<td>2% - 5%</td>
</tr>
<tr>
<td>Legumes and legume preserves</td>
<td>1% - 3%</td>
<td>1% - 2%</td>
</tr>
</tbody>
</table>

Source: MAPAMA

**SPECIFIC WEIGHT OF THE ORGANIC FRUIT AND VEGETABLE IN THE ORGANIC SHOPPING BASKET VERSUS NON ORGANIC CONSUMPTION**

**ACCORDING TO SOME ESTIMATES THE EXPENDITURE FOR ORGANIC FRUIT AND VEGETABLE IN SPAIN WOULD HAVE INCREASED BETWEEN 2016 AND 2017 BY 12-16%**

<table>
<thead>
<tr>
<th>Product Lines Considered</th>
<th>2016</th>
<th>2017 ($)</th>
<th>% Increase 2017/2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetable, potatoes and potato products</td>
<td>311</td>
<td>360/370</td>
<td>15% - 19%</td>
</tr>
<tr>
<td>All kind of fruits and derivative products</td>
<td>186</td>
<td>195/205</td>
<td>7% - 10%</td>
</tr>
<tr>
<td>Total</td>
<td>497</td>
<td>555/575</td>
<td>12% - 16%</td>
</tr>
</tbody>
</table>

Source: MAPAMA(2016) and experts consulted (2017)

*) Estimated.

**ORGANIC FRUIT AND VEGETABLE HAVE A HIGH SHARE IN THE ORGANIC SHOPPING BASKETS OF THE MAIN WORLD MARKETS**

<table>
<thead>
<tr>
<th>Organic Products World Market</th>
<th>% of the Quota of the Organic Shopping Basket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh fruit and vegetables and derivatives</td>
<td>20% - 25%</td>
</tr>
<tr>
<td>Meat and meat products</td>
<td>15% - 20%</td>
</tr>
<tr>
<td>Milk and dairy products</td>
<td>12% - 18%</td>
</tr>
<tr>
<td>Cereals and cereal products</td>
<td>10% - 15%</td>
</tr>
<tr>
<td>Baby food</td>
<td>8% - 12%</td>
</tr>
<tr>
<td>Rest of organic food and drinks</td>
<td>15% - 25%</td>
</tr>
<tr>
<td>Total</td>
<td>80% - 120%</td>
</tr>
</tbody>
</table>

Source: MAPAMA

**SPANISH ORGANIC FRUIT AND VEGETABLE FOREIGN TRADE**

- The export of organic fruit and vegetable (fresh and processed) represent around 40% of the estimated overall organic products export (the value of the organic products export in 2016 accounted for around 891 EUR million).
- The import of organic fruit and vegetable (fresh and processed) represent around 20% of the estimated overall organic products import (the value of the organic products import in 2016 accounted for around 560 EUR million).
- The organic fruit and vegetable trade balance is positive (around 240 EUR million). This represents 2% of the overall external trade balance of the entire trade on non organic fruit and vegetable.
PRIORITY IN THE REASONS OF PURCHASE

<table>
<thead>
<tr>
<th>% of responses in consultations to non-organic buyers</th>
<th>% of responses in consultations to organic buyers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Value for money</td>
<td>65% - 75%</td>
</tr>
<tr>
<td>2. Proximity</td>
<td>60% - 70%</td>
</tr>
<tr>
<td>3. Quality and freshness</td>
<td>55% - 60%</td>
</tr>
<tr>
<td>4. Cleanliness and general appearance of the shop</td>
<td>50% - 55%</td>
</tr>
<tr>
<td>5. Possibility of doing the entire purchase at the same establishment</td>
<td>45% - 50%</td>
</tr>
<tr>
<td>6. Color and flexibility</td>
<td>45% - 50%</td>
</tr>
<tr>
<td>7. Reliability and variability of the trademarks</td>
<td>45% - 50%</td>
</tr>
<tr>
<td>8. Parking availability / access</td>
<td>35% - 45%</td>
</tr>
<tr>
<td>9. Offers, promotions, customer cards,…</td>
<td>25% - 35%</td>
</tr>
<tr>
<td>10. Organic products offer</td>
<td>10% - 20%</td>
</tr>
</tbody>
</table>

QUALITY BEFORE PRICE?

- Value for money is important for the organic food consumer but less important than for the non-organic food consumer.
- Quality has a price, but also a threshold that vary with countries.
- Price is a very important factor in the purchasing decision, but in the case of organic products it is not necessarily the largest challenge to rising consumption.
- There are other important bottlenecks. In Spain, for instance, one of them is the different access model for organic food vis-à-vis to food distribution system and the sales structures, compared with non-organic food.
- It make it difficult for the organic product to be at the disposal of consumers on all supermarket shelves, which is an obstacle to create economies of scale that reduce production unit costs.
- But a hypothetical balance of prices with non organic food will never happen because organic food production is a very demanding model.

MARKET STUDIES INDICATE THAT THE PRODUCTION AND THE FRUIT AND VEGETABLE CONSUMPTION IN THE WORLD WILL GROW BETWEEN 10-15% IN THE COMING YEARS DUE TO SEVERAL FACTORS:
- 10% Increase of consumption in consolidated markets.
- 5% Increase of consumption in emerging markets.
- Incorporation into O.F. of huge food-production multinationals.
- Organic fruit and vegetables available in all major retailers, including the leading chains.
- The consolidation and expansion of the e-commerce.
- The optimization of the knowledge on O.F. aimed to demand and consumption and buying behavior.
- The growth in vegetarian, vegan and flexitarian habits.
- The growth in consumer demand for fresh products, “natural products”, “local products”.
- The increase on the concers about the sustainability of food production.
- A huge variety of alternatives for the organic products: fresh product, preserves, juices, frozen food, baby food, ready-made meal…
- Changes in household structure.
- New ways of purchasing food.
- The proven resilience of the “convinced” organic food consumer.
- The organic spend per capita in the E.U is around €53.7. In Spain is around €36
- But in Switzerland is already €262/year; in Denmark €191 and in Sweden €177/year (2015).

TRENDS AND CHALLENGES

- Just in the E.U. the 7% of the total agricultural land is already organic.
- The 1.1% of the global agricultural land is already organic (Liechtenstein 30.2%, Austria 21.3% and Sweden 16.8% (2015)).
- The value of the global organic food market in 2015 was 7d billion euros approx.
- Changes in the on-premises channel.

WE ALSO SHOULD TAKE INTO ACCOUNT:

- Changes in household structure.
- New ways of purchasing food.
- The proven resilience of the “convinced” organic food consumer.
- The organic spend per capita in the E.U is around €53.7. In Spain is around €36
- But in Switzerland is already €262/year; in Denmark €191 and in Sweden €177/year (2015).

Thank you for your attention.
SECTION V
FIELD TRIP

This section summarises the discussions that took place during the field trip.

During the field trip delegates met with representatives of several actors of the peach and nectarine sector.

- Mr José Rodriguez, CEO of Sintesis (Primor Fruit)
- Mr Christophe Bouchet, responsible for the growing (orchard) at Primor Fruit
- Mr Gianpietro Lingua and Mr Gabriel Canevello, RKGROWERS, an Italian export company that trades Primor Fruit’s production in Italy Piedmont region.
- Mr Luis Marin, Director of Associafruit, association of fruit producers.

Delegates visited Primor Fruit company. Primor Fruit started its activities at the late 60’s when a French family began cultivating new varieties of peaches near Seville. Primor Fruit S.A. was funded in 1976 and is specialised in precocious stone fruit production. Since 2015 Primor Fruit S.A has been a member of SAT SINTESIS, an important organisation of producers that commercialises the product of Primor Fruit and of four other producers.

Discussions took place at:

- fields of peaches and nectarines -Primor Fruit company - Pedro Espiga field
- packhouse - Primor Fruit company - Pedro Espiga.
Fields of peaches and nectarines - Primor Fruit company - Pedro Espiga field

Discussant: Mr Christophe Bouchet

Abstract

The “Pedro Espiga” field is a plantation of peaches and nectarines and covers 350 ha close to the river Guadalquivir.

Mr Christophe Bouchet explained the challenges of the production of peaches in Andalusia. Primor Fruit introduced the production of peaches for the first time in Andalusia in the 1960’s. Cultivation is a challenge as growing peaches is very complicated. The major criteria for choosing a variety is its ability to adapt to the local conditions. Then come major criteria to meet the demand: colour, flavour and taste.

Mr Bouchet shared the grower’s point of view about organic versus integrated agriculture. The grower is trying to take account of the environment conditions: sparing water, maintaining biodiversity. The point is to find a compromise between treatments for the good of both plant and environment. Most of the time it is challenging to meet both needs simultaneously.

Mr Bouchet also talked about irrigation and management of weeds. Primor Fruit used to apply flowed irrigation. Nowadays they apply drip irrigation. Behind this is the balance between herbicides and fungicides. Weeds can help maintaining diversity and monitoring the soil’s nitrogen contents. So, an option is to reduce herbicides. However, when weeds are too high they favour mould development. Therefore, growers have to find the right balance between herbicide and fungicide when managing weeds. Taking account of the advantages and inconvenient of weeds for peach production helps finding compromise. There are alternate ways for getting rid of weeds: mechanic cut, which nonetheless implies to revise the whole production system, or plastic covers, which are bad for environment.

Delegates then visited the field and shared experiences with the hosting team on the growing techniques and the inspection challenges for peaches and nectarines.
Packhouse - Primor Fruit company - Pedro Espiga

Discussant: Mr Gianpietro Lingua

Abstract

Mr Gianpietro Lingua guided the visit of the Primor Fuit packinghouse. The facilities cover 50 000 m² and is dedicated to nectarines, peaches and oranges. Delegates could witness all steps of the treatment: arrival, sampling (size, BRICS, temperature and pressure), washing, sorting, packaging and loading.

Mr Lingua explained the practices regarding grading: products in Class I should show no defect; Class II products go to domestic market; and products graded in a different Class go to the processing supply chain.
SECTION VI
NEW TECHNOLOGIES FOR FRUIT AND VEGETABLES PRODUCTION AND INSPECTION

In this section, invited experts introduce or raise awareness on new trends and technologies in the fruit and vegetables sector, for consideration of the heads of national inspection services.

Presentations in the Section:

- New greenhouse technologies
- New microbiological analysis in fresh fruits and vegetables
New greenhouse technologies

by Pr Hasan Silleli, University of Ankara, Turkey

Abstract

The latest FAO projections show a continuous increase in population and consequently an ever growing demand for fruits and vegetables. However, the production of fruit and vegetables require huge quantities of energy, land and water resources. Greenhouses are an option and new techniques and methodologies are under development. Currently greenhouses covered with plastic represent the vast majority of greenhouses in the market, followed by crystal greenhouses and then by other type of greenhouses. So far, greenhouse production concentrates mainly in Asia-Pacific with 51% of total greenhouse distribution. However, interest is growing in countries with adverse climatic conditions or with severe constraints of arable land. Arab countries in the Persian Gulf area are especially prone to explore greenhouse production to meet their growing demand for fresh fruit and vegetables.

In order to grow plants successfully in greenhouses, it is necessary to control temperature, humidity, light and ventilation. The majority of plants grown in greenhouses are warm-season species and are adapted to average temperatures in the range 17-27°C. If the average minimum outside temperature is below 10°C the greenhouse is likely to require heating, particularly at night. When the average maximum outside temperature is less than 27°C ventilation will prevent excessive internal temperatures during the day; however, if the average maximum temperature exceeds 27-28°C then artificial cooling may be necessary (fogging, fan and pad, shading). Relative humidity within the range 60-90% have little effect on plants. Values below 60%, may occur during ventilation in arid climates, or when plants are young with small leaves, and this can cause water stress. A relative humidity over 90% for long periods, particularly at night, favours the rapid development of fungus diseases. Light is provided almost exclusively by solar radiation. The expense of supplementary lighting precludes its use, except in plant propagation and in the production of some species of cut flowers and pot plants. Although ventilation provides a net transfer of CO₂ into a greenhouse, the CO₂ used by plants during photosynthesis will mean the concentration in the greenhouse will always be lower than outside.

Having this in mind, a modern Greenhouse needs to have the following equipment in order to be viable: a ventilation system, cooling system, a shading system, a heating system, a programmable irrigation and fertilisation system, a CO₂ injection system and a data logging and automation system. Knowing this, in Turkey they designed a new generation of greenhouses technology (PolyClima) that can produce all year round (12 months) by heating in winter and cooling in summer. This technology can be deployed independently of climate conditions. This new type of greenhouse can reduce water consumption by up to 50% and increase production on average 40-60%. Additionally, these technical systems should also be used to produce food with a high quality standard, because the consumers’ demand for improved quality of fruit and vegetables is increasing. One of the reasons for this amplified health awareness in society is the apparent relationship between the intake of horticultural products and numerous health benefits for consumers.
New greenhouse technologies

Presentation by Pr Hasan Silleli, University of Ankara, Turkey
Greenhouse Technologies
Semi-closed greenhouses
POLYCLIMA

Prof. Dr. Hasan Silleli
University of Ankara Faculty of Agriculture

Outline

- Section 1
  - Overview of world greenhouses
- Section 2
  - Overview of Turkish greenhouses
- Section 3
  - Greenhouse environment
- Section 4
  - Semi-closed greenhouses and some examples for new Polyclima technic

Almeria

The sunny south of Spain offers more to the national economy than sunny skies. Over the past 50 years, the small coastal plain (campo), some 30 kilometers southwest of the city of Almería, has been intensively developed for agriculture. An estimated 20,000 hectares of extra-early market produce is grown in greenhouses in the Campo de Dalías, and it accounts for over €1.5 billion in economic activity. The area has a dry, mild Mediterranean climate and is further shielded on the south by the Sierra de Gador mountains. With just slightly more than 200 millimeters of annual precipitation to support crop growth, the area also relies on groundwater from small stream aquifers from the mountains to the north.

The World Consumption of Fruit and Vegetable
1969-2049

Energy Reserves, World Population, Food Production

Customer and market demands are overshadowed by the future production conditions, especially in greenhouses. Among other things, the production processes in terms of fruit and vegetables require high amounts of energy for heating/cooling and freshwater for irrigation, where these goods are the most cost-intensive resources in greenhouse production due to the increase in fossil fuel and freshwater prices.
Greenhouses in Europe

Spain 60.000 ha %99
Turkey 51.000 ha %88
Italy 25.000 ha %91
France 10.000 ha %70
Holland 10.000 ha %2
Greece 4.500 ha %95
Others 14.000 ha ----

%, Polyethylene plastic film greenhouses

What is the situation in Turkey

- 87% of greenhouses located in Mediterranean region
- 88% of greenhouses covering with plastics
- 12%, glass greenhouses and others
- 95%, vegetables
- 5%, fruits and flowers
Factors that can affect a greenhouse environment

Greenhouses provide higher than ambient average temperatures and protect plants from the effects of wind and rain, however in order to grow plants successfully, it is generally necessary to modify the naturally created internal climate. Temperature is the most important variable of the greenhouse climate that can be controlled.

- The majority of plants grown in greenhouses are warm-season species and are adapted to average temperatures in the range 17-27°C,
- with approximate lower and upper temperature limits of 10 and 35°C
- If the average minimum outside temperature is below 10°C the greenhouse is likely to require heating, particularly at night.
- When the average maximum outside temperature is less than 27°C ventilation will prevent excessive internal temperatures during the day; however, if the average maximum temperature exceeds 27-28°C then artificial cooling may be necessary (fogging, fan and pad, shading).
- The maximum greenhouse temperature should not exceed 30-35°C for prolonged periods.

The second important variable of the greenhouse climate is humidity, which has traditionally been expressed in terms of relative humidity. Relative humidity within the range 60-90% have little effect on plants. Values below 60%, may occur during ventilation in arid climates, or when plants are young with small leaves, and this can cause water stress. Serious problems can occur if the relative humidity exceeds 90% for long periods, particularly at night as this favors the rapid development of fungus diseases e.g. Botrytis cinerea

Light or more specifically, photosynthetically active radiation (PAR) is an essential requirement for greenhouse crop production, but it is provided almost exclusively by solar radiation. The expense of supplementary lighting precludes its use except in plant propagation where plant densities can be very high, and in the production of some species of cut flowers and pot plants. Although ventilation provides a net transfer of CO2 into a greenhouse, the CO2 used by plants during photosynthesis will mean the concentration in the greenhouse will always be lower than outside. In well ventilated greenhouses when the insolation is high, concentrations of 200 μmol mol-1 have been recorded compared to 360 μmol mol-1 in the external atmosphere.

Growing method

- In soil
- Hydroponic

95% of modern greenhouses use hydroponic system

Greenhouse types in respect to intention of usage

Commercial greenhouses,
Seed and seedling greenhouses,
Protect-rehabilitation and demonstration greenhouses,
Research and Development greenhouses.
Examples for Hydroponic Construction materials

Galvanized steel construction greenhouses
The combination of aluminum and steel greenhouses

EQUIPMENTS in a TECHNOLOGICAL GREENHOUSE

- Ventilation system
- Cooling system
- Shading system
- Heating system
- Programmable irrigation and fertilization system
- CO₂ injection system
- Data logging and automation system

Ventilation system
Natural ventilation: roof roof+side wall
Forced ventilation with fans,

Heating

Fan and Pad Evaporative cooling systems
Not more than 30 m

Misting/Fogging

Shading systems
Internal, external and thermal shading

Irrigation and Fertilization

CO₂ injection
Although ventilation provides a net transfer of CO₂ into a greenhouse, the CO₂ used by plants during photosynthesis will mean the concentration in the greenhouse will always be lower than outside. In well ventilated greenhouses when the insolation is high, concentrations of 200 μmol mol⁻¹ have been recorded compared to 360 μmol mol⁻¹ in the external atmosphere.

Input,
\[ \text{water, nutritions, energy, light, CO₂} \]

Output,
\[ \text{O₂, water, Organic compound} \]

PHOTOSYNTHESIS
\[
\begin{align*}
6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_12\text{O}_6 + 6\text{O}_2
\end{align*}
\]

ULTRA SENSITIVE IN-LINE FERTIGATION UNIT WITH MECHANICAL MEMBRANE DOSAGE POMP
Plant weighing scale and measuring unit for drainage of irrigation water

Artificial lighting

Parameters that should be controlled in greenhouse
- Temperature (°C)
- Relative Humidity (%)
- Insolation (W/m²)
- Concentration of CO₂ (ppm)

Internal and external sensors for controlling GH
- Temperature sensors
- RHT sensor
- Wind speed and direction
- Rain sensor
- Pyrometer
- PAR sensor
- Soil moisture
- CO₂ concentration
- Transpiration, Wet sensor
- Anemometer
- EC and pH sensor

Greenhouse and control engineering
Tomatoes require 70 to 80 mol/m²/day of PAR radiation per kg tomato inside the greenhouse.

Comparison with glass and polyethylene greenhouse in the well-known cities

Tomato production in different climate/region in Turkey

- Pestisit application 80% reduction
- Consumption of irrigation water 50% reduction
- Productivity 40-60% Increase
Semi-closed greenhouse and Polyclima technic

In extremely humid conditions capable to moisture control

Equipments in SC-Greenhouse
AHU

1-FC Plug FAN
2-Heat exchanger
3-Heated & Cooled air
4-Dehumidification collection channel

10-12 times should be changed the whole greenhouse air.

Cooling e

First Polyclima in Azerbaijan

Mersin

First section was built as 5 ha
Planting was in 29th of December 2018

Polyclima project in Qatar

• Qatar

Mersin and Doha
Estimation for labor cost and electricity for Qatar

<table>
<thead>
<tr>
<th></th>
<th>1st year</th>
<th>2nd year</th>
<th>3rd year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production (kg/m²)</td>
<td>35</td>
<td>45</td>
<td>52</td>
</tr>
<tr>
<td>Labor cost (USD/kg)</td>
<td>0.79</td>
<td>0.61</td>
<td>0.53</td>
</tr>
<tr>
<td>Electricity (USD/kg)</td>
<td>0.47</td>
<td>0.37</td>
<td>0.32</td>
</tr>
<tr>
<td>Total cost (USD/kg)</td>
<td>1.26</td>
<td>0.98</td>
<td>0.85</td>
</tr>
</tbody>
</table>

Thanks
New microbiological analysis in fresh fruits and vegetables

by Ms Amparo de Benito, AINIA

Abstract

Ms. Amparo de Benito, after presenting AINIA, provided a presentation on new microbiological analysis in fresh fruits and vegetables. Her presentation gave a comprehensive overview of microbiological criteria in fruits and vegetables, relevant European legislation, risk analysis, and detailed explanations of methodologies for analysis.

AINIA is a non-profit organisation with more than 25 years of experience in research, development and innovation. One of its core areas of expertise is the microbiological analysis in fresh fruits and vegetables. Methods can be divided into quantitative and qualitative.

Quantitative methods include count by MPN (most probable number). In this method, each dilution is planted in three or five tubes, the count is obtained by the number of positive tubes and the results are interpreted using conversion tables. There is also a MPN automated method. It is based on MPN, but with automated reading by fluorescence. Another interesting quantitative method is the “Flow Cytometry”. This method detects and quantifies the cells in a sample, measures optical properties, for example light emitted by fluorochromes and light scattered by particles of the flow, and can differentiate cells by size and complexity.

On qualitative methods, immunoassays (ELISA) is based on the antigen-antibody reaction. It is generally used as a second antibody. We also have recognition by phage, based on the specific recognition by phage. The methodology needs confirmation phase (presence). We also have genetic testing (PCR real time) based on the specific detection of DNA. After a detection phase of enrichment, it requires a confirmation phase (presence). It does not differentiate DNA from non-viable cells.
New microbiological analysis in fresh fruits and vegetables

Presentation by Ms Amparo de Benito, AINIA
New microbiological analysis in fresh fruits and vegetables

09th July 2018

Amparo de Benito
Laboratorio de Bioensayos
abenito@ainia.es

Organizational Model

Governing Bodies

Our governing bodies have high representation of the food industry

Associated companies: 730
Members: 27

Our specialties

• Food & health
• Food quality & safety
• Design and Industrial Production
• Sustainability, environment
• Consumer

Know how
• Food technology
• Biotechnology
• Nanotechnology
• Electronics and communications
• Chemical Technologies
• Environmental and energetic technologies
• Packaging technologies

Sectors

Food
Chemistry
Biotechnology
Packaging

Infrastructures

More than 13.000 m² of facilities for the development of our research activity, with a value above 30 M €

- 8 laboratories
- 12 pilot plants
- Classrooms
- Research area
- Industrial supercritical plant
- Consumolab Madrid and Valencia

SECTION VI. NEW TECHNOLOGIES FOR FRUIT AND VEGETABLES PRODUCTION AND INSPECTION | 81
> Microbiological Analysis

- Set up and validation of new analytical methods.
- Accredited laboratory ISO 17025:
  - Food pathogens (rapid methods and culture)
  - Moulds, yeasts, fungi
- Virus (Norovirus, Hep-A)
- Allergens
- Surface analysis
- Identification of microorganisms (MALDI-TOF, rep-PCR)

Spanish representative in ISO/CEN Food Microbiology Committee

> Antimicrobial strategies

- Development of predictive models and quantitative risk assessment
- In situ diagnosis of contamination

Introduction:

The Regulation 2073/2005 of the EU, and amendments, establishes:

- The microbiological criteria in certain foods
- This criteria should form an integral part of the implementation of HACCP-based procedures and other hygiene control measures
The regulation 2073/2005 is divided in three chapters:

Chapter 1. Food safety criteria (are applicable throughout the shelf-life of the product, introduce new concepts such as microbial growth prediction).

Chapter 2. Process hygiene criteria.
- Meat and products
- Milk and dairy products
- Egg products
- Fishery products
- Vegetables, fruits and products

Chapter 3. Rules for sampling and preparation of test samples.

Microbiological criteria in Regulation 2073/2005:

- Precut Fruits and Vegetables (Ready to eat)
- Non-pasteurized fruit and vegetable juices (Ready to eat)
- Sprouted seeds (Ready to eat)
- Sprouts (Untreated)

Microbiological criteria in Regulation 2073/2005:
- Salmonella
- Listeria monocytogenes
- Shiga toxin-producing E. coli (STEC) O157, O26, O111, O103, O145 and O104:H4

Microbiological criteria in Regulation 2073/2005:

Samples shall be taken from processing areas and equipment used in food production, when such sampling is necessary for ensuring that the criteria are met. In that sampling the ISO standard 18593 shall be used as a reference method.

Food business operators manufacturing ready-to-eat foods, which may pose a Listeria monocytogenes risk for public health, shall sample the processing areas and equipment for Listeria monocytogenes as part of their sampling scheme.

Identification of other microbiological hazards

- Regulations, collection of microbiological standards for each type of product, recommendations...
- RASFF (Rapid Alert System for food and feed) http://ec.europa.eu/food/food/rapidalert/index_en.htm
- References and scientific articles in specialized databases, http://www.sciencedirect.com /
- Experience in terms of microbiological hazards for each type of product.

Main food-borne outbreaks in the EU
Food-borne outbreaks caused by viruses

**Methodology used in ainia:**

**Selection of information sources**
- Determination of objectives and scope
- Selection of sources (website, journals, etc...)

**Search and analyzing signals**
- Selection of key words
- Sistematic search.

**Methodology:**

- Revision by an expert of the outcomes of the automatic search
- Study by the expert of the possible scenarios

Identification of potential risks

### Identification of other microbiological hazards

Data extracted from Food alert for fruits and vegetables

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Microorganism</th>
</tr>
</thead>
<tbody>
<tr>
<td>31%</td>
<td>Salmonella spp</td>
</tr>
<tr>
<td>23%</td>
<td>Listeria monocytogenes</td>
</tr>
<tr>
<td>8%</td>
<td>Virus Hepatitis A</td>
</tr>
<tr>
<td>16%</td>
<td>Norovirus GI y GII</td>
</tr>
<tr>
<td>3%</td>
<td>E.coli 0157 (STEC)</td>
</tr>
<tr>
<td>3%</td>
<td>Bacillus cereus</td>
</tr>
<tr>
<td>2%</td>
<td>Capylobacter</td>
</tr>
<tr>
<td>14%</td>
<td>Others</td>
</tr>
</tbody>
</table>

### Analytical methods

Microbiological criteria in Regulation 2073/2005:
ISO Standards revised by UE Mandate M 381:

- ISO 21528-1:2017 Microbiology of the food chain -- Horizontal method for the detection and enumeration of...
- ISO 19343:2017 Microbiology of the food chain -- Detection and quantification of...
- ISO 10272-2:2017 Microbiology of the food chain -- Horizontal method for detection and enumeration of...
- ISO 21528-1:2017 Microbiology of the food chain -- Horizontal method for the detection and enumeration of...
- ISO 10272-1:2017 Microbiology of the food chain -- Horizontal method for detection and enumeration of...
- ISO 21872-1:2017 Microbiology of the food chain -- Horizontal method for the determination of...
- ISO 19020:2017 Microbiology of the food chain -- Horizontal method for the immunoenzymatic detection of...
- ISO 11290-2:2017 Microbiology of the food chain -- Horizontal method for the detection and enumeration of...
- ISO 11290-1:2017 Microbiology of the food chain -- Horizontal method for the detection and enumeration of...
- ISO 22964:2017 Microbiology of the food chain -- Horizontal method for the detection of...
- Cronobacter
- ISO 15216-1:2017 Microbiology of the food chain -- Horizontal method for determination of...
- ISO 10273:2017 Microbiology of the food chain -- Horizontal method for the detection of pathogenic...
- ISO 16654:2001/Amd 1:2017 Annex B: Result of interlaboratory studies. Microbiology of food and animal feeding stuffs -- Horizontal...
- ISO 6579-1:2017 Microbiology of the food chain -- Horizontal method for the detection, enumeration and serotyping of...
- ISO 18465:2017 Microbiology of the food chain -- Quantitative determination of...
- listeria spp.
- enterotoxins
- monocytes
- salmonella spp.
- E. coli
- V. parahaemolyticus
- V. cholerae
- Vibrio vulnificus
- enteric toxin (cereulide) using LC-MS/MS
- Hepatitis A virus and norovirus using...
- Campylobacter spp.
- staphylococcal
- Enterobacteriaceae
- Salmonella
- Listeria
- V. parahaemolyticus

Validation of standard by ILS

Culture media performance

Main changes in the ISO standards

Scope and type of standard: Full standards (instead of TS), horizontal application (for human consumption, feeding of animals, environmental samples and in same cases primary production...)

Procedures: Shorten incubation times, more flexible temperature for incubation (harmonization with US methods), refrigeration between stages...

Validation of standard by ILS

Culture media performance

Alternative methods

• Regulation EU 2073/2005
  • If the food business operator wishes to use analytical methods other than those validated and certified as described before, the methods shall be validated according to internationally accepted protocols and their use authorised by the competent authority.
Certification AFNOR  
http://www.afnor-validation.org/

Certification AOAC  
http://www.aoac.org/

Certification MicroVal  
http://www.microval.org/

Certification NMKL  

- *Analysis Techniques: Quantitative Methods*
  
  **Chromogenic Selective Media**

  - Rapid L. monocytogenes Agar  
    - Differential method in 24h + confirmation
  
  - Rapid E. coli Agar  
    - E. coli Beta-Glucuronidase + and coliforms

- *Analysis Techniques: Quantitative Methods*

  **Count by MPN (most probable number)**

  - Each dilution is planted in 3 or 5 tubes, the count is obtained by the number of + tubes.
  - Conversion Tables
  - Limits: 
    - < 3 MPN/g
    - < 5 MPN/g

- *Analysis Techniques: Quantitative Methods*

  **MPN Automated**

  - It is based on MPN, but with automated reading by fluorescence.

- *Analysis Techniques: Quantitative Methods*

  **Flow Cytometry**

  - Detects and quantifies the cells in a sample.
  - Measured optical properties: light emitted by fluorochromes and light scattered by particles of the flow.
  - Differentiates cells by size and complexity also viability.
  - High sensitivity.

- *Analysis Techniques: Quantitative Methods*

  **Other Methods**

  - *Impedance*  
    - It is based on the detection of environmental electrical changes due to microbial metabolism. Modify the electrical conductivity of the substrate and vary the impedance.

  - PETRI-FILM (3M), It is based on dehydrated rehydrate sheets by inoculating the sample.
Analysis Techniques: Quantitative Methods

**Biomimicry**
- Systems based on the determination of ATP, related to the bioluminescence, and with the amount of organic remains.

**Analysis Techniques: Qualitative Methods**

**Bacterial Sample (ISO 6759)**
- 25g sample
- Peptone Water (225ml)
- Homogenize 2 min

**Results:**
- Absence of Salmonella in 25g

**Confirmation:**
- Incubation: 37 ± 1ºC; 24 ± 3H

**Pre-enrichment:**
- 1 ml 0.1M l
- 10 ml MKTTn broth
- Incubation: 37 ± 1ºC; 24 ± 3H

**XLD ASAP**
- Incubation: 37 ± 1ºC; 24 ± 3H

**Typical Colonies?**
- Magenta color
- Black center
- Lightly transparent red zone

**Immunochromatography (lateral flow):**
- Displays spread by capillary action toward the area of recognition. Bands of color.

**Genetic testing (PCR real time):**
- It is based on the specific detection of DNA. After detection phase of enrichment.
- Need confirmation phase (presence)
- High specificity and sensitivity.

**Immunassays (ELISA):**
- It is based on the antigen-antibody reaction. It is generally used a second antibody.
- After detection phase of enrichment.
- Need confirmation phase (presence)
- High specificity.

**Recognition by phage:**
- It is based on the specific recognition by phage.
- After detection phase of enrichment.
- Need confirmation phase (presence)
- High specificity and sensitivity.
> Analysis Techniques: Qualitative Methods

Genetic testing (PCR real time)

- Different business solutions: main differences are probes used and type of thermal cycler.
  - System BAX (ThermoFisher) -> Sybr Green (probes)
  - Applied Biosystem -> Taqman And Mirose (Probes)
  - IQ-CHECK (BioRad) -> Molecular Beacons (Probes)
  - Gene-up (Biomerieux) -> Probes FRET

Digital PCR. Nanofluidics chip. Absolute Quantification
  - QuantStudio ThermoFisher (3D)
  - AutoDG System and QX200 System (BioRad)

Genetic testing (RT-PCR)

- It is based on the specific detection of RNA.
- Step: Copy of RNA to cDNA.
- It is used for the detection of virus.
- It will not be possible to establish viability (infective load).
- High specificity and sensitivity.

Thank you for your attention

Amparo de Benito abenito@ainia.es
SECTION VII
CHALLENGES FOR INSPECTION SERVICES

In this section, speakers from participating countries, observer counties or observer organisations share their experience on some key issues for the fruit and vegetables inspection services. The OECD Secretariat presented two key challenges on behalf of experts who could not attend.

Presentations in the Section:

- Traceability
- Conformity checks for internet sales of fruit and vegetables
Traceability

by the OECD Secretariat, on behalf of the dedicated sub-working group

Abstract

The Secretariat presented on behalf of the Sub-working Group a report on the status of the traceability work. The Secretariat reminded delegates that during the 76th Plenary Meeting of the OECD Fruit and Vegetables the sub-working group presented document TAD/CA/FVS(2017)6 which was a TRACEABILITY CHECK LIST. The main idea of the list is to help inspectors and traders to focus on the traceability issues at every production and marketing stage. The list points out what should be verified at every inspection stage so as to check if the information about the country of origin is available and reliable and if the lot is traceable. The Plenary Meeting agreed that it would be useful to elaborate on the check-list to get also guidelines.

The sub-working group on traceability plans to transform the list into guidelines keeping in mind suggestions by delegates. This is the list of suggestions:

- There should be more descriptions and explanations especially regards the origin of the product.
- More description on how to check the origin of the produce.
- What should be done if an inspector finds out the lack of the origin (no country of origin/ not reliable information about it).
- How the laboratory analysis can be use in case of the verification of the country of origin – put more explanations about the isotopic methods.
- Using codes GNN, GLN (GS1 codes) – more explanations about the legality of the codes. (If traders can use the code instead of full name and address of the producer or maybe codes can be given only additionally. This should be clarified in the guideline and accepted by all members of the OECD Scheme).

The idea is not to replace the check-list. It may be rearranged and use as the annex to the guideline.
Traceability

Presentation by OECD Secretariat, on behalf of the dedicated sub-working group
TRACEABILITY

Background - for information only
The OECD Fruit and Vegetables Scheme organised the 16th OECD Meeting of the Heads of National Inspection Services in Warsaw, Poland on 20-23 May 2014, at the invitation of the Chief Inspector of Agriculture and Food Quality in Poland.

During the Meeting, delegates discussed traceability issues. Member countries shared their practice and gave an overview on the implementation of different traceability systems. In general, traceability has two levels: an electronic system and visual control. Traceability in the internal market is relatively easy. However at the export stage, when products are repackaged, resorted or re-graded, it is difficult to maintain traceability. In this case, it is the responsibility of the trader/packer to maintain the correct traceability documentation from the exporting country and therefore maintain traceability. At the import stage the importer should request the correct documentation from the exporter in order to ensure traceability. Nevertheless, enormous challenges arise from traceability. Therefore, the Heads of National Inspection Services suggested that the topic is discussed at OECD level.

During the 73rd Plenary Meeting of the OECD Fruit and Vegetables Scheme agreed to set up a Sub-Working Group to discuss traceability (December 2014). The Secretariat is the Convenor. Hungary, Poland, France, Kenya work on traceability.

At the 76th Plenary Meeting of the OECD Fruit and Vegetables (December 2017) Poland introduced the Progress report on Traceability [TAD/CA/FVS(2017)6]. The Plenary Meeting clarified that the status of the document is currently a check-list but that it would be useful to elaborate on it to get also guidelines. The Plenary Meeting agreed more time is needed to elaborate on the document. The Sub-Working Group on Traceability will continue developing the document and will submit a revised version to the Working Group Meeting to be held back-to-back to the harmonisation meeting hosted by the Netherlands in June 2018 with the view to submit a proposal for approval at the 2018 Plenary Meeting.

Delegates suggestions:
- There should be more descriptions and explanations especially as regards main aspect which is the origin of the product.
- More description how to check origin of the produce.
- What should be done if inspector finds out the lack of the origin (no country of origin/ not reliable information about it).
- How the laboratory analysis can be use in case of the verification of the country of origin – put more explanations about the isotopic methods.
- Using codes GNN, GLN (GS1 codes) – more explanations about the legality of the codes. (If trader can use the code instead of full name and address of the producer or maybe codes can be given only additionally. This should be explain in the guideline and accepted by all members of the OECD Scheme).
- The idea is also don’t remove the check-list. It may be rearranged and use as the annex to the guideline.
Conformity checks for internet sales of fruit and vegetables

by the OECD Secretariat, on behalf of the dedicated sub-working group

Abstract

At the 17th OECD Meeting of Heads of National Inspection Services that took place in Rome in 2016, inspectors from EU member countries stressed that a growing number of internet sales of fruit and vegetables do not comply with this regulation. This lack of compliance poses several problems, including unfair competition, and risk for consumers and plants, as traceability and quality controls are not guaranteed. Authorities are confronted by new challenges in applying traditional controls to on-line sales. For example, online platforms do not provide physical addresses of their warehouses.

In 2017 the OECD Fruit and Vegetables Scheme set a sub-working group to explore the feasibility of developing guidelines or standards that could help address the challenges posed by internet sales of fruit and vegetables.

Consequently, the Secretariat circulated a questionnaire amongst participating countries in 2017 trying to identify existing regulations and major challenges faced by the inspections services of participating countries. The major challenges reported by participating countries were:

i. the physical detection of the consignment/traceability

ii. biosecurity/phytosanitary non-compliance

iii. non declaration of consignment at port of entry

iv. knowing the companies being active in internet sales of fruit and vegetables

v. knowing where the deliveries are generated and the goods are picked and packed

vi. knowing where the contract is concluded (article 5 of 543/2011)

vii. knowing whether produce delivered directly to the final consumer by subscribing a box scheme is covered by the term “online sale”

viii. enforcing that the online offer is exactly providing the information (produce, country of origin, and where applicable quality class and variety/commercial type

ix. enforcing that produce is labelled correctly and that invoices and accompanying documents indicate this information

x. being aware that online traders are fighting for very weak regulations in saying that it is too complicate to update databases for online sales in a timely and precise manner, amongst others.
Conformity checks for internet sales of fruit and vegetables

Presentation by the OECD Secretariat, on behalf of the dedicated sub-working group
Internet Sales

Background

• Internet sales discussed at the 17th HNIS in Rome Italy (October 2016)
• Secretariat circulated a Questionnaire amongst Member countries in 2017
  (Answers were provided by: Finland, Germany, Israel, Italy, Kenya, New Zealand, Poland, and Switzerland)
• The 2017 Plenary Meeting agreed to set-up a Sub-Working Group (SWG). Members of the SWG are: Belgium, France, Germany, Kenya, the Netherlands and Spain.

Challenges

• The physical detection of the consignment / traceability.
• Biosecurity/Phytosanitary non compliance
• Non declaration of consignment at port of entry
• Knowing the companies being active in internet sales of fruit and vegetables;
• Knowing where the deliveries are generated and the goods are picked and packed;
• Knowing where the contract is concluded (article 5 of 543/2011);
• Knowing whether produce delivered directly to the final consumer by subscribing a box scheme is covered by the term "online sale".

• Ordering via internet – the authority must provide financial means for purchases and provide a delivery address which is not the official address;
• Enforcing that the online offer is exactly providing the information (produce, country of origin, and where applicable quality class and variety/commercial type;
• Enforcing that produce is labelled correctly and that invoices and accompanying documents indicate this information;
• Being aware that online traders are fighting for very weak regulations in saying that it is too complicate to update databases for online sales in a timely and precise manner

New Trends in Food Consumption

According to Food Business News these are the news trends fueling fruit and vegetables sales

• On-line grocery shopping
• Meal kit delivery
• Community supported agriculture programs
• Special diets and superfood claims
• Exotic flavor profiles


While total retail sales are stagnant, online grocery sales in western Europe are expected to double in the coming five years. Looking further ahead, Rabobank expects that, in 2030, the share of online grocery shopping in total grocery shopping will be as high as 25 percent.

According to the Nielsen Perishables Group (2015), over 1 billion consumers are willing to buy groceries online.

Several developments indicate consumers’ increasing willingness to buy fresh produce online. For a long time, consumers were accustomed to choosing their own fruit and vegetables in the store. Now, consumers are increasingly used to having their veggies delivered to their doorstep: either via regular supermarkets and meal kit deliveries, or via specialised online fresh produce suppliers.

Fresh produce suppliers (of fruit, vegetables and floriculture) that respond proactively to this development could cash in. The various online channels for fresh produce offer several opportunities: increased shelf space, the option of adding information about the product, active screen management, cross-sell opportunities and fresher products via a shorter supply chain. At the same time, suppliers may face challenges from increased competition and complexity, as well as changes to impulse-buying.
INTERNET SALES

APP for shopping Fruit and Vegetables

For the consumer:
• Template with complete information
• Homogeneity amongst internet sellers and physical sellers

For the inspections services:
• Guidelines/standards?
✓ How, where and when conduct inspections.
✓ Ensure the rules are respected by all stakeholders dealing with Fresh fruit and vegetables trade (traditional and internet sales)
SECTION VIII
PHYTOSANITARY AND HEALTH RISKS

This section is intended to provide an overview on possible new challenges that could be addressed by the Scheme, for consideration of the Heads of National Inspection Services. Spain invited an expert from FRUTARIA, who shared the Group’s experience in fight against pests.

Presentations in the Section:

- Strategies against fungi in the fruit and vegetable production
Strategies against fungi in the fruit and vegetable production

by Mr Fernando J. Gonzalez, Frutaria SAT, Spain

Abstract

Mr Fernando González gave a brief overview of FRUTARIA and noted some challenges faced by the group regarding pests. The Frutaria group is a fruit and vegetable organisation that manages plantations in three areas of the Iberian peninsula:

- North (provinces of Zaragoza and Navarra)
- West (province of Badajoz)
- South (provinces of Sevilla and Huelva)

The group has on average 100 million kg of stone fruit, citrus fruit, grapes and pip fruit marketed annually.

Mr Gonzalez then shared with delegates one of the main challenges dealing with fresh fruit and vegetables, *botrytis*. *Botrytis*, a fungus called grey mold, is always ready to eat our fruits and is a real headache for the berries producers in Huelva. Grey mold is the cause of significant losses, not only in field but, what is worse, in supermarkets and customers’ households too. The usual wet conditions in Huelva winters help *Botrytis* infections and make its control a challenge for this industry.

A different issue is the stone fruit growing in the Guadalquivir Valley, this product if harvested in late spring where climate conditions are usually drier. Stone fruits mainly grow in the low valley because farmers seek the warm climate that allows to pick early varieties in late April and May. At that time those fruits, especially peaches, nectarines and late Saturn peaches find good markets. Although early varieties of peaches and nectarines are less liable to chilling injury, these fruits rarely are sold out of Europe. Only fruits picked in early June are sometimes sent overseas. As you know, chilling injury is the name for internal damages that stone fruits show caused by low conservation temperatures that usually are near 0°C. Those damages are more likely if fruits are kept at low temperatures for more time so they are more likely in overseas transport.

Andalucía exported 433 000 tonnes (t) of peaches to EU-27 and only 20 000 t to countries outside the European Union in 2017. 1 460 000 t of nectarines to EU-27 and only 143 000 t to other countries in 2017. Only 69 000 t of plums to EU-27 and 30 000 t outside.

Another problem is *Monilia*, that affects some fruits from time to time. Lately a fungicide called Scholar, which active substance is Fludioxonil, has been allowed to be sprayed on these fruits after harvest and it has turned out to be an effective controller of that fungus. Curiously there is no postharvest fungicide authorised for berries. You only can spray fungicides on strawberries before picking them. Although you can spray a few days after picking, fungicides would have better effects if they could be applied at packinghouses.

Mr Gonzalez also explained that nowadays large chain stores are really concerned about pesticide residues. They are in a dominant position over farmers and have required by contract to respect a maximum number of pesticides found in fruit and vegetables and, what is worse from his point of view, a level below a 50% of established MRLs for each pesticide found. That policy compels farmers to repeat several times the same fungicide treatment.
and to make treatments with less dosage than what is recommended to control the fungus. In his opinion this policy will lead to develop resistant strains of fungi or pests. The effect will be the same that would happen if people always took the same antibiotic at half dosage, and this will certainly lead to bigger problems than the ones this policy is trying to prevent.

Mr Gonzalez also gave a brief overview of the challenges faced by citrus producers. Citrus are produced mainly in Huelva, Sevilla and Cordoba. 4 117 000 t of citrus fruits are exported from Andalucía: 82 % to EU-27 countries.

The main products of this group are oranges and mandarins, representing 39% and 33% respectively of total citrus exports in 2017. Lemons, that are grown mainly in Almería and Málaga were 17% percent of Andalusian citrus industry exports. This said, fungi is a serious problem because most of citrus are picked in autumn and winter in an area with a wet climate at that time.

Fortunately, postharvest fungicides are allowed in citrus industry and they can be applied in different ways and times. All fungicides used for citrus act on the skin surface of fruits. That is why you need to treat them before 24 hours after picking. Fungi need a route of entry to infect citrus fruits. Those gateways are the micro bounds that the picking processes make on the skin of fruits. When spores or hyphae find a micro bound they start to grow and come into the skin. Growth rates depend of several factors, being temperature the most important. When fungi are well implanted into the fruit you cannot do anything to kill them. The most important fungi related with postharvest citrus fruits in Andalucia are Penicillium digitatum and Penicillium italicum. The last one is even worse than the other because it needs no bound to break into the fruit and, in addition, it can grow at near 0ºC temperatures.
Strategies against fungi in the fruit and vegetable production

Presentation by Mr Fernando J. Gonzalez, Frutaria SAT, Spain
Unidad para la Maduración de Fruta UMF

- La función de esta unidad es obtener fruta que esté lista para comer partiendo de fruta que esté en el estado de madurez de recolección.
- Las propiedades organolépticas de la fruta: sabor, aroma, color de la piel, color de la pulpa y azúcar son óptimas en un estado de madurez que no permite su conservación a largo plazo, ni la selección y el envasado mecánicos.
- Los frutos climatéricos aceleran su maduración cuando se someten a la acción del etileno.
- La UMF consiste en un recinto aislado en el que la fruta se somete a una determinada concentración e etileno en unas condiciones ambientales que favorecen el efecto de este gas, haciendo que la evolución hacia un estado de madurez más avanzado sea lo más rápido posible. Tanto la concentración deseable de etileno en el aire como los parámetros de temperatura y humedad se establecerán en el correspondiente documento técnico.

Especies susceptibles de ser maduradas en la UMF

- Peras
- Melocotones
- Nectarinas
- Paraguayos
- Ciruelas
- Plumcots Sweet Iridis

En el mercado existen proveedores capaces de suministrar recintos en los que los parámetros relacionados con la maduración se regulan. El más frecuente es el recinto para madurar plátanos (Ripening room).

Para iniciar el camino en la maduración de fruta vamos a construir un recinto apropiado sirviéndonos de un contenedor frigorífico. Estos dispositivos son capaces de mantener unas condiciones constantes de temperatura y humedad ambiental, y si se pone su dispositivo de ventilación al 0% son totalmente estancos. Quedando garantizado que no haya perdidas de etileno.

Puesta en servicio de la UMF

El suministro de energía se hace a través de una toma de fuerza tres fases + neutro como la de la parte superior de la imagen. En la parte inferior de la imagen se muestra la entrada de gas al contenedor, y en la derecha se presenta el equipo para medir la concentración de etileno.
Botrytis in Strawberries

Botrytis in Pears and Raspberries

Penicillium in citrus fruit

Monilinia in Peaches and Nectarines

Fruit respiration

Ripening room
### FINAL DISCUSSION AND CONCLUSION

The discussions have been very fruitful and have raised a series of challenges that Inspection Services of participating countries are facing. In particular, delegates agreed that internet sales of fruit and vegetables are growing and the lack of clear policies and regulations on how to address them is having a detrimental effect on the market and on the consumer. The OECD Scheme should increase its efforts to address this challenge and provide inspectors and consumers with adequate tools to deal in a fair and transparent way with sales of fruit and vegetables on-line.

Delegates also greed on the need to clarify and attain a common understanding on how to deal with traceability.

Dr Brambila (OECD Secretariat) took the floor and thanked Spain on behalf of all delegates for their hospitality and the excellent organisation of the meeting. Ms Maria de Armas (Spain) thanked all delegates for their participation at the meeting. She noted that the success of the meeting was in large part due to the quality of the various presentations and the interventions and discussions led by highly experienced and skilled delegates.

<table>
<thead>
<tr>
<th>Proposal of the Heads of National Inspection Services to the 2018 Plenary Meeting:</th>
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<tbody>
<tr>
<td>● The role of the OECD in internet sales of fruit and vegetables should be:</td>
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<td>● For the consumer:</td>
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</table>

● The role of the OECD on traceability:

OECD already has a Sub-working Group on tolerances. Discussions should continue in order to enable participating countries to reach an agreement that facilitates common understanding on the application and use of traceability. Draft guidelines and a checklist will be presented at the next Plenary Meeting for discussion and possible approval.
Figure 1. Delegates standing next to the President Chamber of Commerce of Seville, at the Chamber of Commerce premises (with courtesy of the Chamber of Commerce of Seville)
Figure 2. Introduction to the “Pedro Espiga” field by the representatives of Primor Fruit

Figure 3. View of Pedro Espiga field, with the irrigation system
ANNEX I. SOME PHOTOS OF THE EVENT

Figure 4. Primor Fruit expert explaining their management of weeds

Figure 5. Weeds can help maintaining diversity and monitoring the soil’s nitrogen contents
Figure 6. Discussion on fruit quality

Figure 7. Primor Fruit expert sizing the fruit
ANNEX I. SOME PHOTOS OF THE EVENT

Figure 8. Guided tour of Primor Fruit packing house

Figure 9. Delegates discussing the grading
ANNEX II. DRAFT AGENDA
18TH MEETING OF THE HEADS OF NATIONAL INSPECTION SERVICES

9-11 May 2018
Chamber of Commerce of Seville, Seville, Spain

WEDNESDAY 9 MAY 2018, 9:30-12:30

9:30
1. Working Group Meeting on Berry Fruit, Root Vegetables and Passion Fruit
   Rapporteurs: Slovakia and Kenya.
   For discussion and recommendation

12:30
Lunch Break

13:00
2. Registration and welcome coffee

13:30
3. Opening of the meeting
   Welcome by Dirección General de Política Comercial y Competitividad

13:40
4. OECD Secretariat
   Opening statement by the Secretariat. 13:50

14:20
5. Presentations by international organisations (EC, UNECE, CODEX)

6. Presentation on Spain’s Fresh Fruit and Vegetables Sector
   By Subdirección General de Frutas y hortalizas y Vitivinicultura Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente.
15:00

7. Presentation on Spain’s Fresh Fruit and Vegetables Control System
   By Subdirección General de Inspección, Certificación y Asistencia Técnica de Comercio Exterior.

15:30

Coffee Break

15:45

8. Presentation by main supermarket chains in Spain.

16:20

9. AINIA. New trends and technology for the microbiological control of fruit and vegetables.
   AINIA is a technology centre established in 1987 as a non-profit organisation. With more than 25 years of experience in research, development and innovation, AINIA works to motivate the competitiveness of companies through innovation.

17:00

End of Session

THURSDAY 10 MAY 2018, 9:30 - 17:30

9:30

10. Technical Visit and lunch
   Asociafruit
   Peaches and Nectarines. Variety UFO- Paraguayo.

21:00

Welcome Dinner Hosted by Spain¹

FRIDAY 11 MAY 2018, 9:00-13:30

9:00

   Presentation by Spain
   For discussion and recommendation

¹ The dinner will take place at 21:00 at Fundación CajaSol, Pl. de S. Francisco, 1, 41004 Sevilla
9:40

12. New Greenhouse Technologies
   Presentation by Prof. Silleli. (Ankara University).
   For information and discussion

10:20

13. Conformity checks for internet sales of fruit and vegetables
   The Sub-Working Group will discuss potential challenges related to internet sales of F & V
   For discussion and recommendation

11:00

Coffee Break

11:20

14. Traceability
   The Sub-working Group will provide an update on the traceability work.
   For discussion and recommendation

12:00

15. New Horizontal Work
   The OECD Secretariat will discuss potential new horizontal work that could be developed
   by the OECD Fruit and Vegetables Scheme.
   For discussion and recommendation

12:30

16. Priority list
   Delegates and the OECD Secretariat will discuss the current situation of the priority list,
   the rules to add or delete items and next steps.
   For discussion and recommendation

13:00

17. Other Business
   • Upcoming Harmonisation meetings (the Netherlands and Slovakia),
   • Upcoming joint workshops,
   • Next Peer Review,
   • Potential New Member countries.
   For information and discussion
ANNEX III. PARTICIPANT LIST

18TH MEETING OF THE HEADS OF NATIONAL INSPECTION SERVICES

9-11 May 2018
Chamber of Commerce of Seville, Seville, Spain

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<tbody>
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</table>
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<th>Organization</th>
<th>Address</th>
<th>Phone Number</th>
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</thead>
<tbody>
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### Observer Countries

**Namibia/Namibie**

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<tbody>
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<td>Windhoek</td>
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### Observer Organisations

**Codex Alimentarius Commission (International Food Standards)**

<table>
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<th>Name</th>
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<th>Organization</th>
<th>Address</th>
<th>Phone Number</th>
<th>Email</th>
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<td>Rome</td>
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### OECD Secretariat

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