FINAL REPORT OF A MISSION

CARRIED OUT IN

MOROCCO

FROM 08 TO 15 FEBRUARY 2011

IN ORDER TO EVALUATE CONTROLS OF PESTICIDES IN FOOD OF PLANT ORIGIN INTENDED FOR EXPORT TO THE EUROPEAN UNION
Executive Summary

The objective of the audit was to evaluate the control system in Morocco for pesticides in food of plant origin intended for export to the European Union (EU). Additionally, the mission team followed up on action taken by the Competent Authorities (CAs) in response to the recommendations made by the FVO in report DG(SANCO)/8131/2006.

The official export control programmes and the auto-controls of food business operators generally provide assurance that food of plant origin exported to the EU complies with EU legal limits for pesticide residues. The widespread introduction of biological control in the tomato and pepper production has led to a reduction of pesticide use, and the new laboratory equipment will allow an increased effectiveness of the official export control programme in the near future.

Exporters and growers are not sufficiently aware that some of the authorised uses of plant protection products can lead to residues above EU maximum residue levels (MRLs). The controls for pesticides in mint do not always ensure that mint exported to the EU will comply with EU MRLs.

The competent authorities are in the process of implementing the satisfactory action plan to address the recommendations of the previous report.

The report contains recommendations to Morocco aimed at addressing the identified shortcomings.
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<tr>
<th>Abbreviation</th>
<th>Explanation</th>
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<tr>
<td>BIPEA</td>
<td>Bureau InterProfessionnel d'Etude Analytique, France</td>
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<tr>
<td>CA</td>
<td>Competent Authority</td>
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<td>CCA</td>
<td>Central Competent Authority</td>
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<td>COFRAC</td>
<td>French Committee of Accreditation</td>
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<td>DG SANCO</td>
<td>Directorate-General for Health and Consumers of the European Commission</td>
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<td>DPVCTRF</td>
<td>Directorate of Plant Protection, Technical Controls and Fraud Prevention</td>
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<td>EACCE</td>
<td>Autonomous Organisation for the Control and Co-ordination of Food Exports</td>
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<td>ECD</td>
<td>Electron Capture Detector</td>
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<td>EU</td>
<td>European Union</td>
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<td>EUROSTAT</td>
<td>Statistical Office of the European Communities</td>
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<td>FBO</td>
<td>Food Business Operator</td>
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<tr>
<td>FLD</td>
<td>Fluorescence Detector</td>
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<td>FPD</td>
<td>Flame Photometric Detector</td>
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<td>FVO</td>
<td>Food and Veterinary Office</td>
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<td>GAP</td>
<td>Good Agricultural Practices</td>
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<tr>
<td>GC</td>
<td>Gas Chromatograph</td>
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<tr>
<td>GC-MS</td>
<td>Gas Chromatograph - Mass Spectrometry</td>
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<tr>
<td>HPLC</td>
<td>High Pressure Liquid Chromatography</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>ISO</td>
<td>International Organisation for Standardisation</td>
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<tr>
<td>LC-MS/MS</td>
<td>Liquid Chromatograph – Tandem Mass Spectrometry</td>
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<td>LOARC</td>
<td>Official Laboratory for Chemical Analysis and Research</td>
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<td>LOD</td>
<td>Limit of Determination</td>
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<tr>
<td>MAMF</td>
<td>Ministry of Agriculture and Maritime Fisheries</td>
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<td>MRL</td>
<td>Maximum Residue Level</td>
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<td>MRM</td>
<td>Multi Residue Method</td>
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<td>NPD</td>
<td>Nitrogen Phosphorus Detector</td>
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<tr>
<td>NRL</td>
<td>National Reference Laboratory</td>
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<td>ONSSA</td>
<td>National Food Safety Office</td>
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<td>PPP</td>
<td>Plant Protection Product</td>
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<td>RASFF</td>
<td>Rapid Alert System for Food and Feed</td>
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1 INTRODUCTION

The audit took place in Morocco from 8 to 15 February in order to assess controls of pesticide residues in food of plant origin, intended for export to the EU. The team comprised two auditors from the Food and Veterinary Office (FVO) and one Member State (MS) expert.

The audit was undertaken as part of the FVO's annual audit programme in order to follow-up developments in Morocco since the previous FVO mission DG(SANCO)/8131/2006.

The team was accompanied during the audit by a representative of the central competent authority (CCA), the Autonomous Organisation for the Control and Coordination of Food Exports (EACCE).

An opening meeting was held on 8 February 2011 with the CCA, the Ministry of Agriculture and Maritime Fisheries (MAMF), the EACCE and the National Food Safety Office (ONSSA). At this meeting, the objectives and itinerary of the audit were confirmed, and additional information required for the satisfactory completion of the audit was requested.

2 OBJECTIVES OF THE MISSION

The objective of the audit was to evaluate the systems in place for the control of pesticide residues in foodstuffs of plant origin intended for export to the EU, in order to assess whether these systems offer adequate assurance that the produce concerned is within the specified residue limits laid down in EU legislation.

The audit team also followed up on the findings of the mission DG(SANCO)/8131/2006 from 15 to 21 November 2006 with the same objectives.

In terms of scope, the audit reviewed the controls in place on the production and export, including a review of national legislation, competent authority (CA) organisation, their controls and enforcement capability, facilities (laboratory capability) and measures in place for the determination of pesticide residues in foodstuffs of plant origin. As the residue controls are directly related to the national rules governing the authorisation, placing on the market and use of Plant Protection Products (PPPs), the control systems in this area were also part of the audit. As regards the products concerned, the audit covered fresh vegetables, citrus and mint.

In pursuit of these objectives, the following sites were visited:

<table>
<thead>
<tr>
<th>Visits/meetings</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Competent Authorities</td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>2 ONSSA: CA for authorisation of plant protection products (PPPs), controls of the marketing and use of PPPs and controls of pesticide residues on the domestic market. EACCE: CA for controls of pesticide residues in food intended for export.</td>
</tr>
<tr>
<td>Regional</td>
<td>2 EACCE Delegations in Agadir and Casablanca region. Regional offices of ONSSA in Agadir and Casablanca.</td>
</tr>
</tbody>
</table>
### Laboratories

| Official Laboratories | EACCE Laboratories Agadir and Casablanca: Official pesticide residue analysis for exports |

### Inspection or site visits

<table>
<thead>
<tr>
<th>Processors</th>
<th>Four pack-houses for vegetables in Agadir region, and two pack-houses for mint in the greater Casablanca region. All processors were involved in EU RASFF notifications.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growers</td>
<td>One grower of tomatoes, one grower of peppers, one grower of mint.</td>
</tr>
</tbody>
</table>

### Others

| Professional organisations | Two professional associations for vegetable and citrus producers, one association of the PPP industry. |

## 3 Legal Basis for the Mission

### 3.1 Legal basis for the audit

The audit was carried out under the general provisions of EU legislation, in particular Article 46 of Regulation (EC) No 882/2004 of the European Parliament and of the Council which stipulates that EU controls in third countries (TC) may verify compliance or equivalence of TC legislation and systems with EU feed and food law and EU animal health legislation. These controls shall have particular regard to the assurances which the TC can give regarding compliance with, or equivalence to, EU requirements.

A full list of the legal instruments referred to in this report is provided in Annex 1. Legal acts quoted in this report refer, where applicable, to the most recently amended version.

### 3.2 Relevant EU legislation

Article 11 of Regulation (EC) No 178/2002 stipulates that food and feed imported into the EU for placing on the market within the EU shall comply with the relevant requirements of food law or conditions recognised by the EU to be at least equivalent thereto.

Article 10 of Regulation (EC) No 852/2004 stipulates that as regards the hygiene of imported food, the relevant requirements of food law referred to in Article 11 of Regulation (EC) No 178/2002 shall include the requirements laid down in Articles 3 to 6 of the Regulation.

Article 18 of Regulation (EC) No 396/2005 requires that products covered by Annex I of the same Regulation shall not contain, from the time they are placed on the EU market as food or feed, any pesticide residue exceeding EU Maximum Residue Levels (MRLs), or 0.01 mg/kg for those products for which no specific MRL is set.
The evaluation, marketing and use of PPPs in the EU are regulated under Council Directive 91/414/EEC concerning the placing of plant protection products on the market.

### 3.3 Guidelines and Standards

Relevant Guidelines and Codes of Practice of the CODEX, in particular:

- Guidelines CAC/GL 25-1997 for the exchange of information between countries on rejections of imported food;
- Guidelines CAC/GL 26-1997 on the design, operation, assessment and accreditation of food import and export inspection and certification systems;
- Guidelines CAC/GL 27-1997 for the Assessment of the competence of testing laboratories involved in the import and export control of food;
- Recommended methods of sampling for the determination of pesticide residues for compliance with MRLs (CAC/GL 33-1999).

The CODEX also establishes MRLs for pesticides, which are considered for the establishment of EU MRLs.

### 4 Background

#### 4.1 Mission Series

The FVO has carried out missions to a number of exporting countries to assess official controls for pesticide residues in food of plant origin originating from TCs. The reports on these missions are available on DG Health and Consumers’ internet site at [http://ec.europa.eu/food/fvo/ir_search_en.cfm](http://ec.europa.eu/food/fvo/ir_search_en.cfm).

#### 4.2 Background to the Mission

Morocco continues to be the most important trade partner of fresh vegetables with the EU, and according to data for 2008 from EUROSTAT, the EU Statistical Office, 65 % of the imports of tomatoes, 55 % of the imports of fresh leguminous vegetables, 18 % of lettuces, and 8 % of cucumbers/courgettes originated from Morocco. The EU also imports significant volumes of fresh fruit from Morocco, and 10 % of the EU citrus imports in 2008 originated from this country.

According to the EACCE, Morocco annual exports to the EU amount to 294,000 tonnes of tomatoes, 117,000 tonnes of green beans, 47,000 tonnes of sweet peppers, 36,000 tonnes of courgettes, 5,300 tonnes of mint and 220,000 tonnes of citrus fruit. Around 72 % of the citrus exports and 79 % of the vegetable exports are grown in the Agadir region.

Since January 2007, there were a total of 22 notifications within the EU Rapid Alert System for Food and Feed (RASFF) relating to pesticides in fresh mint, vegetables, and fruits from Morocco. A total of 10 notifications related to mint contained the following pesticide residues: chlorpyrifos, dimethoate and endosulfan. The remaining RASFF notifications related to different pesticides in courgettes, clementines, green beans, strawberries, sweet peppers, table grapes and tomatoes.

In their 2008 Annual Report on Pesticide Residues under Article 32 of Regulation (EC) No
396/2005, the European Food Safety Authority (EFSA) reported that MSs had identified 34 MRL exceedances in food products from Morocco, mainly in peppers, beans and tomatoes.

The audit also followed up on the findings of the mission DG(SANCO)/8131/2006 on controls on pesticides in food of plant origin. The report of the mission contained recommendations to the competent authorities of Morocco, and an action plan was received, which was considered satisfactory to address the recommendations of the report.

5 FINDINGS AND CONCLUSIONS

5.1 RELEVANT NATIONAL LEGISLATION

Legal requirements

Art. 46 (1) (a) of Reg. (EC) No 882/2004 stipulates that Community controls shall have, inter alia, particular regard to the legislation of the TC.

Findings

Since the last mission, Act No 25-08 of 5 March 2009 created the Office National de Sécurité Sanitaire des Produits Alimentaires (National Office for Food Safety) – ONSSA.

Act No 28-07 on the safety of food products of 18 March 2010 constitutes an ONSSA working instrument. This Act establishes the general principles of food safety and the conditions in which food and feed must be produced, processed and sold. The Act prohibits the placing on the market, the import or export of products which could endanger human health. It introduces the obligation to establish traceability in the food chain, and requires producers of primary products of plant origin to record the uses of fertilisers and pesticides. It will apply from 18 September 2011. The implementing legislation is under preparation, and draft Decrees have been submitted to the Secretary General of the Government for consultation.

At the time of the audit, no MRLs have been established in Morocco. The ONSSA stated that the legislation to establish MRLs is under preparation, and a draft Ministerial Decree has been submitted to the Secretary General of the MAMF for internal consultation.

Conclusions

Since the last mission, additional legislation has been introduced to establish the ONSSA and the Food Safety Law. In particular, the legal requirements concerning traceability and of record keeping of pesticide applications will further strengthen pesticide controls.

5.2 COMPETENT AUTHORITIES

Legal Requirements

Art. 46 (1) (b) and (c) of Reg. (EC) No 882/2004 stipulate that Community controls shall have, inter alia, particular regard to the organisation of the TC's CA, their powers and independence, the authority they have to enforce the applicable legislation effectively, and the training of staff in the performance of official controls
Findings

The CA for controls of pesticide residues in food of plant origin intended for export continues to be the EACCE.

Following the reform of the MAMF in 2009, the Directorate of Plant Protection, Technical Controls and Fraud Prevention (DPVCTRF) merged with the Livestock Directorate to make one single entity called ONSSA. The ONSSA is responsible, among others, for approving and controlling pesticides, and for accrediting the establishments which produce, import or export them (Article 2 of Act 25-08). It is also responsible for setting MRLs, and for applying the provisions of Act 28-07 (see section 5.1).

In November 2010, EACCE and ONSSA signed a memorandum to develop co-operation and synergies between the two authorities.

Conclusions

CAs have been clearly designated, and provisions are in place to develop co-operation and synergies between them.

5.3 Official Control of the Marketing and Use of Plant Protection Products

Legal requirements

Art. 46 (1) (e) and (b) of Reg. (EC) No 882/2004 stipulate that Community controls shall have, inter alia, particular regard to the existence and operation of documented control procedures and control systems based on priorities, and the CA’s capability to enforce applicable legislation;

Art. 3(1) and 4(1)(a) of Directive 91/414/EEC stipulate that Member States shall prescribe that PPPs may not be placed on the market and used in their territory unless they have authorized the product in accordance with this Directive and its active substances are listed in Annex I to the Directive.

Art 17 of Directive 91/414/EEC requires Member States to make the necessary arrangements for plant protection products which have been placed on the market and for their use to be officially checked.

Art. 10 of Reg. (EC) No 852/2004, in conjunction with Art. 4.1 and Annex I, Part A.III of the same Regulation, requires that food business operators producing or harvesting plant products are, in particular, to keep records on any use of PPPs.

Findings

5.3.1 Authorisation of plant protection products

The ONSSA informed the FVO team that around 947 PPPs containing 345 active substances are authorised in Morocco. In 2010, around 23,000 tonnes of PPPs were imported into Morocco by 53 authorised companies. The ONSSA stated that no active substances are produced (synthesised) in Morocco. Some production activity consists in formulating PPPs.

Many of the pesticides authorised in Morocco cannot be marketed and used in the EU due to toxicological concerns, and the related EU MRLs have been set at the limit of determination (LOD). Their use in Morocco could lead to residues in excess of EU MRLs. This is the case for acephate, aldicarb, azinphos-methyl, cadusafos, carbaryl, carbofuran, carbosulfan, chlorfenapyr, heptenophos, methamidophos, phosalone, tetradoxifon, among other pesticides. The same applies for procymidone,
which was the reason for a recent EU RASFF notification.

The register of authorised PPPs is not officially published, but an unofficial version is regularly compiled by a private organisation, in co-operation with ONSSA. It contains details of the authorisation (including dosage, crops, pre-harvest intervals). In addition, ONSSA regularly circulates lists of the PPP authorisations for individual commodities (including tomatoes, peppers, green beans) to the growers associations. These lists were available and up-to-date at the visited pack-houses.

There are no PPPs authorised for use in mint, but there was widespread use of pesticides in this commodity. ONSSA stated that they have started a project on authorisations of PPPs for minor uses including mint, together with the German authorities.

The authorised PPPs are checked through regular controls at the point of import and through formulation analysis. In 2010, the ONSSA regional office in Agadir has performed 67 checks of imported PPPs and took 39 samples of PPPs for formulation analysis.

5.3.2 Controls of growers

The recent Food Safety Law, Act No 28-07, includes requirements for growers, and ONSSA plans to introduce inspections of producers accordingly. At the time of the audit, no regular pesticide controls of growers were performed.

In the last years, ONSSA (and DPVCTRF until 2009) has provided regular training to growers. In 2010, the regional ONSSA office in Agadir has performed 128 training missions and 10 meetings with producer groups to promote the good plant protection practices and the introduction of record keeping for pesticide applications. ONSSA has also promoted biological control in the production of tomatoes and peppers, which has been widely introduced by growers in Agadir (see section 5.6).

Since 2002, ONSSA has been involved in the calibration and checking of spraying equipment for growers, which is a requirement from private standards to which growers are certified. In 2010, the regional ONSSA office in Agadir has checked 148 sprayers and trained 96 operators accordingly.

The legal requirements for traceability and record keeping of Act No 28-07 will apply from September 2011. They have been promoted by EACCE for the approval of pack-houses already at the time of the previous mission. All visited vegetable growers had introduced systems for record keeping and traceability. The mint growers do not keep complete records of PPP use.

Conclusions

Information on the authorised uses of PPPs is regularly distributed to growers associations. Many of the authorised uses can lead to residues in excess of EU MRLs. As no PPPs are authorised for use in mint, growers are not sufficiently aware of good plant protection practice in this culture.

ONSSA checks the quality of PPPs and has provided substantial training to growers, including biological control. All visited vegetable growers kept records of pesticide applications, in line with Art. 10 of Regulation (EC) No 852/2004, in conjunction with Art. 4.1 and Annex I, Part A.III, but mint growers do not keep complete records of pesticide applications.
5.4 Official Controls of pesticide residues in food of plant origin

Legal requirements

Art. 46 (1)(b), (c), (d), (e) and (h) of Regulation (EC) No 882/2004 stipulate that EU controls shall have, inter alia, particular regard to: the existence and operation of documented control procedures and control systems based on priorities, the CA's capability to enforce applicable legislation, the resources including diagnostic facilities available to competent authorities, the training of staff in the performance of official controls and the assurances which the TC can give regarding compliance with, or equivalence to, EU requirements.

Art. 10 of Reg. (EC) No 852/2004 in connection with Art. 6 of the same Regulation requires that every FBO shall notify the appropriate CA of each establishment under its control that carries out any of the stages of production, processing and distribution of food, with a view to the registration of each such establishment.

Commission Directive 2002/63/EC establishing EU methods of sampling for the official control of pesticides residues in and on products of plant and animal origin or equivalent international standards (e.g. CODEX Guidelines CAC/GL 31-1999).

Point 6 of Guidelines of CODEX CAC/GL 25-1997 for the exchange of information between countries on rejections of imported food.


Findings

5.4.1 Control of processors

As described in the report of the previous mission, all pack-houses operating for export must be approved by EACCE, based on technical inspections and standards of hygiene. During inspections, the EACCE inspectors also check whether the pack-houses implemented systems for traceability. In the visited region of Agadir, 98 pack-houses of vegetables and 22 of citrus had been approved.

Detailed traceability systems were implemented in the visited pack-houses for fruits and vegetables, which allow tracing of lots to the grower or plot of the farm. The visited pack-houses for mint have started implementing traceability systems.

5.4.2 Sampling programmes for pesticide residues

In addition to the export control programme (see next section), ONSSA performs control of pesticide residues on the domestic market and at the point of import. Samples are analysed at the accredited Official Laboratory for Chemical Analysis and Research (LOARC).

5.4.3 Export control programmes

As described in the report of the previous mission, the EACCE performs a sampling programme for pesticide residues in produce intended for export. In the season 2010/2011, EACCE plan to take 2817 samples, an increase compared to the previous season. In 2009/2010, 1498 samples of
vegetables were taken, in addition to 546 samples of citrus and 83 samples of mint. The non-compliance rate was 2 % for vegetables, 11 % for citrus and 14 % for mint. A total of 959 samples are planned for the region Agadir, where 72 % of the exported citrus and 79 % of the exported vegetables are produced.

The samples are taken at the pack-houses at the time of packaging. The group of pesticides to be analysed in a sample is decided by the EACCE inspectors, depending on the last pesticides recorded by the producer. The scope of analysis of individual samples has not increased significantly since the last mission. The produce is already exported, before the analytical result is known.

The audit team observed the demonstration of a sampling procedure for peppers in Agadir. The lot consisted of 220 boxes weighing 5 kg each from the same plot of the farm. The procedure was broadly in line with the Codex Guidelines on sampling for the determination of pesticide residues for compliance with MRLs (CAC/GL 33-1999). It complied with the principles of random sampling. The requirements for unit numbers and weight were met. In accordance with table 1 of the Annex of the Codex Guidelines, 10 primary samples should have been taken, as the lot was not homogeneously mixed through processing. Instead of 10 primary samples, the inspector took 4 primary samples only.

No cooling boxes are used for the transport of the sample to the laboratory, and there is a delay of up to four days between sampling and receipt of the sample in the Casablanca laboratory. The Codex Guidelines (CAC/GL 33-1999) require that spoilage of samples in transit must be avoided and that fresh samples should be kept cool.

Where non-compliance is identified, the EACCE writes to the exporter concerned, blocks the export of consignments from the same plot of the farm. EACCE requests an explanation from the exporter, including data on traceability and records of pesticide applications. EACCE does not consider informing the EU importer.

5.4.4 Laboratories for pesticide residue analysis

Organisation

Six EACCE laboratories carry out the analysis for official export control on pesticide residues in foodstuffs of plant origin. Two laboratories, in Casablanca and Agadir, continue to be accredited according to ISO 17025 by the French Accreditation Body COFRAC. The laboratory in Berkane has already received the accreditation audit. The three remaining laboratories (Marrakech, Larache, Meknes) have not yet been accredited. They analyse 25 % of the export control samples. EACCE stated that they work according to ISO 17025, and plan to achieve accreditation in 2012.

The mission team visited the two laboratories in Casablanca and Agadir.

Resources and training

Both laboratories have adequate facilities. There were four qualified staff members in Casablanca and three in Agadir. The laboratories were equipped with LC-MS/MS, HPLC with UV and FLD detectors as well as several GC with MS, ECD, NPD and FPD detectors.

Analytical spectrum and methods

Sample preparation was performed using five different methods depending on the detection systems applied. A GC-ECD/NPD method covers about 60 analytes. Specific methods are used for the analysis of the maneb group, the benzimidazole group and the methylcarbamates (aldicarb and metabolites, carbofuran, carbaryl, oxamyl, methomyl, propoxur). The LC-MS/MS equipment was introduced in 2010, and a number of samples are now routinely analysed for 38 pesticides by LC-
MS/MS using the QuEChERS method (EN 15662). It takes between one to three days to conduct an analysis.

Quality assurance systems

The scope of accreditation of the laboratories in Casablanca and Agadir covered 108 and 80 pesticides, respectively. Validation of the methods was done for all analytes of the analytical scope. Measurement uncertainty was determined, but not applied to the results. The quality control procedures included regular calibration and recovery checks with mixtures of the pesticides used. Analytical standards were checked regularly. Working solutions were tested against newly prepared solutions. Confirmation by GC was done using two columns with different polarities. In case of non-compliant samples, no replicate analysis or additional confirmation using GC-MS was performed.

For GC-ECD/NPD and FPD, quantification was carried out by a calculation sheet in Excel, and not by a validated software. At the Agadir laboratory, the measured area of the samples was repeatedly out of the calibration range.

The results of proficiency tests organised by the French office BIPEA in 2009 and 2010 indicated good performance for the laboratory in Casablanca. The raw data for some results submitted by the laboratory in Agadir could not be retrieved at the time of the audit.

5.4.5 Response to RASFF notifications

Fruits and vegetables

Compared to the very significant volume of imports of vegetables from Morocco, the rate of related RASFF notifications is not higher than in EU Member States. The audit team evaluated the follow-up by EACCE of five RASFF notifications for vegetables in the Agadir region.

In RASFF notifications of early 2010, there was a delay of over two months between the date of the RASFF notification and its receipt by EACCE. In October 2010, a meeting was held between EACCE and ONSSA, the central national RASFF contact point, to improve and speed up the related communication. For a RASFF notification in February 2011, this delay was reduced to three days.

In all cases, the EACCE started immediate investigations to determine the reason for the MRL exceedances. In some cases the RASFF notification contained only the name of the exporter, but no further traceability data, such as lot numbers or producers' name. At all visited exporters, such information was available on the boxes or trays, which were ready for export. Where traceability data were annexed to the RASFF notification, the EACCE traced the produce back to the producer, or even the concerned plot of the farms. The recorded uses of PPPs were analysed. Where more of the concerned produce was available, the export was blocked pending further analysis. A report of the investigation was drawn up, and sent to the EACCE headquarters in Casablanca. The growers took corrective measures.

Mint

The audit team evaluated the follow-up to six RASFF notifications for mint in two pack-houses in the Casablanca region. The EACCE had visited the concerned pack-houses immediately after receipt of the notifications, and follow-up samples were taken. However, endosulfan was not in the analytical scope of follow-up samples taken in one pack-house, although this pesticide was the reason for the alert. The EACCE blocked the export of further produce from the same lot, but the lot had already been harvested and exported. The EACCE control procedure for mint requires a
cascade of measures after a non-compliant sample. As these measures are only related to the affected production, which is already exported, they can not be applied. Future consignments can only be exported after sampling and compliant results. There was no documentary evidence at one of the two pack-houses that this procedure was followed.

Conclusions

The pack-houses continue to be authorised by EACCE. Satisfactory traceability systems were in place for fruit and vegetables, but not yet for mint. The EACCE pesticide residue sampling programme for export controls generally allows effective controls, as the detected non-compliances can be traced back to the grower and the recorded use of pesticides. The sampling procedure was not fully in line with the Codex Guidelines (CAC/GL 33-1999), in particular regarding cooling during transport.

Most of the samples, though not all, in the export control programme are analysed in laboratories which are officially evaluated or accredited to ISO 17025. The visited laboratories in Casablanca and Agadir have adequate resources for a high number of samples and a broad analytical scope. The recently introduced LC-MS/MS equipment can be effectively used in the near future. The selective detectors used do not provide unambiguous identification of pesticides, and non-compliant results were not always sufficiently confirmed.

Comprehensive and satisfactory follow-up was undertaken by EACCE in response to EU RASFF notifications for vegetables. A complete follow-up was not always possible because the EU MSs had not reported all available traceability data to the RASFF system. The follow-up on RASFF notifications for mint did not sufficiently ensure that the operators remedy the situation.

5.5 Follow up of previous mission

Findings

The report of mission DG(SANCO)/8131/2006 identified some shortcomings. The following table lists the recommendations and indicates how the recommendations have been addressed by the Competent Authorities.

<table>
<thead>
<tr>
<th>Recommendations of DG(SANCO)/8131/2006 in November 2006</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morocco should consider improving the control system for pesticide residues in mint in order to guarantee that the produce complies with, or is equivalent to, European Union standards in accordance with Article 11 of Regulation (EC) No 178/2002.</td>
<td>In progress.</td>
</tr>
<tr>
<td>1. Establishment of a reinforced control procedure for mint; 2. Increase of the number of analyses carried out on mint. Indeed, 83 samples were analysed for a small scope in 2009; 3. Encouraging packers/exporters to improve their own checks system.</td>
<td></td>
</tr>
<tr>
<td>Morocco should consider broadening the scope of analytes sought and continue the implementation of quality control schemes in the</td>
<td>In progress.</td>
</tr>
<tr>
<td>The total analytical scope in two of the six</td>
<td></td>
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</table>
EACCE pesticide residue laboratories to improve the effectiveness of the controls for pesticide residues.

laboratories has been increased to 90 and 108 pesticides, but the samples are not analysed for all these pesticides in routine analysis. The available resources in Agadir and Casablanca will allow to increase the scope in the near future.

Not all of the EACCE laboratories involved in the official control are evaluated and/or accredited under officially recognised programmes, but EACCE plan to complete accreditation of all six laboratories by 2012.

Morocco should consider systematic follow-up for all notifications issued within the European Union Rapid Alert System for Food and Feed (Art. 50 of Regulation (EC) No 178/2002) involving plant produce from Morocco.

Fully addressed.

A contact point was created in the ONSSA which centralises all the RASFF alerts and sends all the alerts concerning plant produce to the EACCE.

Conclusions

One of the three recommendations of the previous mission has been fully addressed, and the remaining two are in progress.

5.6 Private controls of food of plant origin exported to the EU

Findings

Fruits and vegetables

Producers, pack-houses and exporters operate comprehensive self-control systems for pesticide residues. Controls include certification to private Good Agricultural Practice (GAP) standards and regular private sampling and analysis for pesticide residue analysis. Analysis of private samples is performed by accredited laboratories in the EU with a broad analytical scope. EACCE informed the audit team that in the Agadir region, 77% of the citrus pack-houses and 54% of the vegetable pack-houses are certified to private standards.

Since the last mission, the biological control in the production of tomatoes and peppers has increased very significantly, and the growers association of fruit and vegetables estimated that 95% of the sweet peppers and 70% of the tomatoes are grown in integrated production with biological control agents. The citrus growers association informed that a project on biological control of the mediterranean fruit fly (Ceratitis capitata) with sterile males has been successful so far. One visited small vegetable growing co-operative had introduced biological control in the entire tomato production, two visited vegetable producers and exporters were in the process of introducing biological control in their tomato production, but one visited pepper grower had not yet introduced this control. In the integrated production with commercial predators many of the toxic pesticides with low EU MRLs cannot be used, because they would harm the biological control agents.

All visited exporters had prepared lists of pesticides to be used by the growers. These lists were
based on the approved uses of PPPs in Morocco. At three of the four visited vegetable exporters, the lists also took into account the inclusion of pesticides in the EU positive list, Annex I of Directive 91/414/EEC. The visited exporters had not understood that the approved uses in Morocco can lead to residues above EU MRLs. The list for tomato production contained pesticides such as acephate, chlorfenapyr, dichlorvos, ethoprophos and methomyl, as well as the conditions of use approved in Morocco. These pesticides have low EU MRLs and their use with a short pre-harvest interval could lead to residues in excess of EU MRLs. The use of methomyl with a pre-harvest interval of 3 days was recorded by one grower producing for export to the EU. It is noted, however, that MRL exceedances for these pesticides were not detected in the private laboratory analyses undertaken by the exporters concerned and evaluated by the audit team.

Mint

The audit team visited two pack-houses for mint, which were involved in 6 of the 10 RASFF notifications for mint since 2006. Their volume of exports to the EU dropped significantly since 2008. In 2010 they represented less than 10 % of the volume of mint exports to the EU. They were not certified to private standards. They sourced their produce through middlemen from an unknown number of small growers with 1-2 hectares. Pack-houses had no written contracts with growers containing product specifications, such as the pesticides to be used for export production. The vast majority of mint production is consumed in Morocco, and at the time of pesticide application the growers do not know whether their produce will be sourced for export. The pack-houses undertook private sampling and analysis, but the analytical scope did not contain all pesticides subject to the RASFF notifications. Out of the scope of this mission, the pack-houses had shortcomings with hygiene requirements of Regulation (EC) No 852/2004, such as the lack of washbasins and routing of staff.

Conclusions

Comprehensive self-control systems have been introduced by exporters and growers of fruits and vegetables. In particular the widespread introduction of integrated production gives additional assurance that fruit and vegetables from Morocco will comply with EU MRLs. However, some of the pesticide uses recommended by the exporters to their growers could lead to residues above EU MRLs, in particular where integrated production has not yet been introduced. The self-control systems for mint were in an initial stage.

6 Overall Conclusions

The official export control programmes and the auto-controls of food business operators generally provide assurance that food of plant origin exported to the EU complies with EU legal limits for pesticide residues. The widespread introduction of biological control in the tomato and pepper production has led to a reduction of pesticide use, and the new laboratory equipment will allow an increased effectiveness of the official export control programme in the near future.

Exporters and growers are not sufficiently aware that some of the authorised uses of plant protection products can lead to residues above EU maximum residue levels (MRLs). The controls for pesticides in mint do not always ensure that mint exported to the EU will comply with EU MRLs.

The competent authorities are in the process of implementing the satisfactory action plan to address the recommendations of the previous report.
7 CLOSING MEETING

A closing meeting with the CAs was held on 15 February 2011. At this meeting, the main findings and preliminary conclusions were presented by the audit team. The EACCE and ONSSA representatives offered some initial comments and clarifications. They stated that the export approval of one of the visited mint pack-house would be suspended immediately, and that inspections would be carried out in the remaining pack-houses approved for export of mint. They also announced immediate measures for cooling of samples during transport to the laboratory.

8 RECOMMENDATIONS

The CAs are invited to provide details of the actions taken and planned, including completion deadlines("action plan"), aimed at addressing the recommendations set out below, within 25 working days of receipt of this report.

<table>
<thead>
<tr>
<th>Nº.</th>
<th>Recommendation</th>
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<tbody>
<tr>
<td>1.</td>
<td>The competent authorities of Morocco should ensure that growers of mint producing for export to the EU keep records of pesticide applications, in line with Art. 10 of Regulation (EC) No 852/2004, in conjunction with Art. 4.1 and Annex I, Part A.III.</td>
</tr>
<tr>
<td>2.</td>
<td>The competent authorities of Morocco should consider fully implementing CODEX Guidelines CAC/GL 31-1999 on sampling for pesticide residues, in particular regarding cooling of samples during transport.</td>
</tr>
<tr>
<td>3.</td>
<td>The competent authorities of Morocco should continue improving the control system for pesticide residues in mint in order to guarantee that the produce complies with, or is equivalent to, European Union standards in accordance with Article 11 of Regulation (EC) No 178/2002.</td>
</tr>
<tr>
<td>4.</td>
<td>The competent authorities of Morocco should consider to continue broadening the scope of analytes sought in the official control samples to further improve the effectiveness of controls.</td>
</tr>
<tr>
<td>5.</td>
<td>The competent authorities of Morocco should ensure that laboratories involved in official controls are evaluated and/or accredited under officially recognised quality management and assurance programmes to ensure these laboratories provide reliable analytical results. (Point 41 of CAC/GL 26-1997).</td>
</tr>
</tbody>
</table>

The competent authority's response to the recommendations can be found at:

## ANNEX 1 - LEGAL REFERENCES

<table>
<thead>
<tr>
<th>Legal Reference</th>
<th>Official Journal</th>
<th>Title</th>
</tr>
</thead>
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