

**MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND
VEGETABLE PRODUCTS**

GUIDELINE

**MONITORING PROGRAM OF PESTICIDE
RESIDUES IN FRUIT AND VEGETABLE
PRODUCTS**

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

TABLE OF RESPONSABILITIES.

	Names	Position	Signatures
Preparation	Adriana Valenzuela Palma	Professional Sub-department Vineyards and Wines, Safety and Biotechnology	
Review and Validation			
Technical	Rodrigo Astete	Head of the Agriculture and Forestry Protection Division.	
	Alejandra Aburto	Head of the Sub-department of Vineyards and Wines, Safety and Biotechnology	
	Roberto Mir	Head of the Sub-department of Agricultural and Forestry Certifications	
	Ignacio Figueroa	Head of Safety Section Sub-department of Vineyards and Wines, Safety and Biotechnology	
	Pedro Enriquez	Head of the Environmental and Food Chemistry Laboratory. SAG	
Regional and Central	This document was consulted with the following Regional Offices: <ul style="list-style-type: none"> • Arica y Parinacota Region, Tarapaca Region, Antofagasta Region, Atacama Region, Coquimbo Region, Valparaiso Region, O'Higgins Region, Maule O'Higgins, Bío-Bío Region, Araucanía Region , Los Lagos Region, Los Ríos Region, Aysén del General Carlos Ibáñez del Campo Region, Magallanes Region and Chilean Antarctic, and Metropolitan Region of Santiago. 		
Approval	Angel Sartori	National Director	
Effective Date: -2012			Version: 1

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Content

1. Objective	6
2. Scope.....	6
3. Legal Basis	6
4. Validity	7
5. Definitions and Abbreviations.....	7
5.1 Definitions	7
5.2 Abbreviations	8
6. Work team.....	9
Regional Head of Agricultural and Forestry Protection:.....	12
Head of the Sectoral Office.....	12
Coordinator of Agricultural and Forestry Exports.	12
7.1 Sampling Design and Plan.....	13
7.1.1 Statistical Design	13
7.1.2 Technical Design	14
7.1.3 Sampling Plan.....	16
7.1.4 Acquisition of sampling materials	16
7.2 Sample Collection and Shipment.....	16
7.2.1 Sample identification	17
7.2.2 Counter samples	17
7.2.3 Sample Conditioning.....	18
7.2.4 Documents supporting the sample	18
7.2.5 Sample Records	18
7.2.6 Sampling Dates and Shipment to the laboratory	18
7.3 Selection of Laboratories for analysis.....	19
7.4 Data processing and analysis.....	20
7.5 Actions to be taken with the results.....	20
7.5.1 Non-compliance with SAG Regulations on Pesticides	20
7.5.2 Non-compliance with MRL National Regulations (MINSAL Resolution No. 33/2010 and No. 762/2012)	21

**MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS**

7.5.3 If an MRL of an external reference is exceeded (Russia, EU, Codex Alimentarius, United States)	21
7.5.4 Monitoring.....	21
8. Information Storage.....	21
9. Preparation of the MPPR Report	22
10. Communication of Results	22
11. Forms and Records	22
ANNEXES	23
Appendix 1. Organization chart.....	23
Annex 2. Number of samples to be taken	24
Annex 3. Sampling sites.....	26
Annex 4. Sampling Materials	26
Annex 5 Sampling Guidelines for Pesticide Residue Analysis in Fruit and Vegetable Products.....	27
Annex 6. Sampling Guidelines for Pesticide Residue Analysis in Phytosanitary Inspection Sites of vegetable for exports	40
Annex 7. Sampling Guidelines for Pesticide residue analysis in vegetables for domestic consumption	41
Annex 7.1 Sampling in Distribution Centers or Points of Sales.....	41
Annex 7.2 Sampling in National Orchards	43
Annex 8. Sample size according to the Codex Alimentarius.....	44
Annex 9 Actions to be taken with transgressive results and counter samples	46
1) Reception of information and data analysis.....	47
1.1) Reception of Laboratory results	47
1.2) Data Analysis	47
2) Actions to be taken by SAG against non-compliance with corresponding regulations and information flow.....	48
2.1) Non-compliance with SAG Regulations related to unauthorized use on pesticide labels.....	48
2.2) Non-compliance with MRLs National Regulations (MINSAL Resolutions 33/2010 and 762/2011)	48
2.3) MRL exceedance of an external reference (Russia, EU, Codex Alimentarius)	48
3) Actions to be taken with counter samples.....	49



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

4) Monitoring 50

Annex 10. Documents supporting the sample..... 51

Annex 11.Sampling Registration Form and Results Form..... 53

 11.1 Sampling Registration Form of Vegetables Intended for Exports..... 53

 11.2 Sampling Registration Form of Vegetables Intended for Domestic Consumption 53

Annex 12.Contact Points of Laboratories Authorized by SAG for pesticide residue analysis 54

Annex 13.INSTRUCTIONS FOR LABORATORIES REGARDING SENDING INFORMATION TO SAG..... 55

Annex 15.Visit Sheet. 59



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

1. Objective

To establish a Monitoring Program of Pesticide Residues in fruit and vegetable products for domestic consumption and export, in order to provide information to improve use and handling practices of pesticides in the country and determine the degree of compliance with the pesticides' maximum residues limits of the national the regulation.

2. Scope

The scope of this procedure is at national level, to be used in the sampling of fruit and vegetables products produced in the country, intended for export and domestic market. The sampling will be from Arica Region to Magallanes Region in fruit and vegetable products for domestic consumption and fruit sampling in regions where both, Preclearance and SAG / USDA Program are present.

This procedure is to be applied by the Service professionals at the central level and sectoral offices, performing phytosanitary inspection in fruits for exports and pesticides use and management control.

3. Legal Basis

The program relies on:

3.1) Article 34 of Decree Law 3557 which states that:

Pesticides must be used in accordance with the technical standards identified in the label and, when appropriate, in the enclosed brochure, adopting the indicated safety measures in the use as well as in the residues disposal and destruction of empty containers, in accordance with the laws and regulations in place, respecting the deadlines between the last application and harvest, and in the corresponding period of re - entry of people and animals to treated areas, determined by the Service. Only with an express authorization of the Service a different use can be given to them.

The Service may prohibit the use or sale of vegetables which are contaminated with pesticides or its residues in a higher level of what is permitted, or temporarily retain them. For vegetables which are seriously and precisely assumed to be contaminated in the terms stated in this section, the Regional Director may, by reasoned decision, adopt the above measures. Similarly, the destruction or confiscation of vegetables could be ordered, if circumstances so require.

3.2) Decree Law 3,557 of 1980 and its amendment, Law 20,308 of 2008 establishes the powers of the SAG to regulate the application of pesticides. This action is performed



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

through control programs for pesticide use and the compliance with the provisions of product labels, authorized by Resolution 3670 of 1999 and its amendment, Resolution 5551 of 2011.

4. Validity

The program will be annual and the execution will take place from January to December.

5. Definitions and Abbreviations

5.1 Definitions

Technical committee for Residues: Team of SAG professionals and representatives of the food industry, responsible for supporting management and fully compliance of the Program.

Program Coordinators (Coordinator of the Exports Program and National Program): Professionals of the Agricultural and Forestry Protection Division responsible for directing and overseeing the implementation of the Program in the relevant fields.

Officials Responsible for Sampling: Professionals from the Regional Offices and Sectoral offices of SAG, trained in matters of sampling procedure during the preparation, taking, packaging and dispatch of samples to the laboratories assigned. They are responsible for sampling to the Head of the SAG's Sectoral office.

Head of DPAF: Professional responsible for issuing technical and administrative guidelines regarding this procedure. It is also responsible for managing the resources needed for the implementation, monitoring and evaluation of this procedure.

Head of SVVIB: Professional responsible for managing resources, monitor progress and implementation of MPPR activities and inform the Head of DPAF and establish links with other institutions.

Head of the Safety Section: Professional responsible for participating in the design, supervising the activities and preparing the reports.

Head of SCEAF: Professional responsible for managing resources, monitor the progress and implementation of PMRP activities, informing the Head of DPAF and establishing links with other institutions



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Head of the Environmental and Food Chemistry Department: Professional responsible for the technical supervision and operation of accredited laboratories for MPPR.

Maximum Residue Limits (MRLs): the maximum concentration of a pesticide residue (expressed as mg / kg), recommended by the Codex Alimentarius for its use to be legally permitted in the surface or the inside of foodstuffs for human consumption and animal feed. MRLs are based on GAP data and aims at ensuring that foods derived from commodities that comply with the respective MRLs, are toxicologically acceptable.

Sampling: procedure used to extract and constitute a plant sample.

Samples: one or more selected units, or a portion of material selected from a larger amount of vegetables.

Monitoring: continuous collection, examination and use of information on implementation activities of the programs, to identify problems, such as non-compliance, and taking corrective actions to meet the established targets.

Pesticide: chemical, organic or inorganic compound, or natural substance used to combat weeds, diseases or pests which are potentially capable of causing damage in organisms or objects. It will be understood as each formulated product and the active substances used to formulate them, with capabilities such as: insecticides, acaricides, miticides, nematocides, molluscicides, rodenticides, rodenticide, avicides, fungicides, bactericides, algicide, herbicides, phyto regulators, processing aids, antiperspirants, attracting, pheromones, repellents, and others employed in agricultural and forestry activities.

Residues Are all those pesticides and/or metabolites levels, remaining in a plant sample after the application of a pesticide.

5.2 Abbreviations

MRL: Maximum Residue Limits

SCEAF: Sub-department of Agricultural and Forestry Export Certification

SVVIB: Sub-department of Vineyards and Wines, Safety and Biotechnology

DPAF: Agricultural and Forest Protection Division

SAG: Agricultural and Livestock Service



MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

ODEPA: Agricultural Research and Policies Office

MPPR: Monitoring Program for Pesticide Residues

FIM: Sample Information Form

QAA: Laboratory of Environmental and Food Chemistry SAG

6. Work team

The design and implementation of this program will be conducted by a team led by the Head of the Agricultural and Forestry Protection Division. The organization chart of the MPPR at the central level is presented in Annex 1.

The responsibilities of the team are described below:

Head of the Agricultural and Forestry Protection Division:

Issue the technical and administrative guidelines regarding this procedure. Manage the necessary resources for the implementation of the Monitoring Program. Review and approve this procedure

Head of the Sub-Department of Vineyards and Wine, Safety and Biotechnology and Head of the Sub-department of Agricultural and Forestry Export Certification

- Defining the criteria and guidelines for the Monitoring Program for Residues
- Reviewing and approve the procedure.
- Supporting the implementation of the program nationwide.
- Participating in the technical and administrative guidelines of the Program.
- Supervising the tasks of the Regional Coordinators.
- Monitoring the progress and implementation of program activities, compliance with commitments and activities according to schedule.
- Annually verifying technical consistency and modifications made to the program.
- Establishing coordination meetings with the team of MPPR and Regional Managers of Agricultural Protection, generating records of each and distribute them to the team participants.
- Establishing coordination meetings with the sampling operational heads.
- Reviewing the final report of the MPPR.

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

- Establishing cooperation links with public, private and/or other agencies after consulting the Technical Committee for Residues.
- Developing a training program in the field to those responsible for sampling.
- Presenting the program progress to the National Direction, the Head of the DPAF, and Technical Committee for Residues, reporting on the technical, financial and administrative aspects of MPPR.

Head of the Safety Section:

- Participating in the development of the Procedure and guidelines of the Program. Developing a training program in the field to those responsible for sampling.
 - Participating in the annual review and update of the sampling design.
 - Supporting the implementation of the program nationwide.
 - Monitoring the progress and implementation of program activities, compliance with commitments and activities according to schedule
- Reviewing the produced reports.
- Establishing meetings with National Coordinators and sampling operational heads.
 - Presenting the program progress to the Head of the SVVBI, and the SCEAF, reporting on the technical, financial and administrative aspects of MPPR.

National Technical Coordinators of the Monitoring Program

- Implementing and executing the training in the field to Officers responsible for sampling.
- Fortnightly updating and sending the Sampling Registration Form to the officers responsible for sampling.
- Preparing progress reports and annual report of the MPPR.
- Presenting the program progress to the Head of the Safety Section, Head of the SVVBI, Head of the SCEAF and the Technical Committee for Residues, reporting on the technical, financial and administrative aspects of MPPR.
- Coordinating with the laboratories the entry of samples and the issuance of results
- Monitoring whether the laboratories are complying with the terms of reference outlined in the Contract Awarded.

Head of the Sub-department of Environmental and Food Chemistry:

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

- Defining the technical and methodological guidelines for the tender of laboratories.
 - Evaluating results and the quality management system of the laboratories authorized by the Service.
 - Monitoring laboratories awarded to ensure the proper functioning of the activities described in this procedure.
 - Perform interlaboratory tests

Officers responsible for sampling: Professionals of SAG's sectoral offices, trained in matters of sampling procedure and responsible for taking vegetable samples and counter-samples according to this procedure.

- Being trained according to the assigned functions and meet the requirements established in accordance with the functions they perform.
- The training program will be developed by the team in conjunction with SAG laboratory professionals, and shall:
 - Have a duration of at least 8 clock hours, which may include a theoretical and a practical part.
 - Base on this Procedure Sampling guidelines.
- Inform the Head of the Sectoral Office any health condition that should be taken into account for sampling.
- Wear appropriate clothing for the duties they perform, according to the requirements of each of the sampling sites.
- Inform the Head of the Sectoral Office any problems or significant circumstances regarding compliance with the plan of MPPR.
- Be informed of changes in the Program and archiving and backing up the data generated in the MPPR.
- Report progress and record the samples taken, through the means defined by the DPAF.
- Participate in coordination meetings defined by the Coordinators of the Program.

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Regional Head of Agricultural and Forestry Protection:

- Managing at regional level the resources required for the implementation and control of the activities established in this procedure.
- Defining and selecting the sampling sites in the region.
- Distributing the number of samples to be taken in the sectoral offices in the Region
- Informing the Head of the SVVIB on the progress of vegetable products sampling in the sampling sites
- Implementing the actions to be taken with the samples showing transgressions according to the guidelines in this Procedure and informing the Head of the Sub-department of Vineyards and Wines, Safety and Biotechnology, regarding monitoring actions.

Head of the Sectoral Office

- Managing at sectoral level, financial and human resources necessary to conduct the activities established in this procedure.
- Monitoring the actions and provide Officers Responsible for Sampling of the technical requirements and resources to conduct the activities described in this Procedure.

Coordinator of Agricultural and Forestry Exports.

- Complying at regional level of the technical and administrative guidelines from the Agricultural and Forestry Protection Division, in the field of Monitoring Program for Residues.
- Supervising the activities conducted by the Officers responsible for Sampling, established in this procedure.
- Coordinating the activities among the different participants to comply with this Procedure.
- Implementing the activities of the Export Supervisor, when the situation requires it.

7. Description of activities

The activities to be conducted in the MPPR and the guidelines to follow, are:

7.1 Designing and Sampling Plan: includes statistical and technical design

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

7.1.1 Statistical Design

7.1.2 Technical Design: the criteria for selecting sampling sites, selecting plant species and representativeness of the sample, selecting analytes to be detected in the Laboratory analysis, must be established.

7.1.3 Annual Sampling Plan

7.1.4 Acquisition of sampling materials

7.2 Sample Collection and Delivery

7.3 Selection of Laboratories for analysis

7.4 Data Processing

7.5 Information Storage

7.6 Preparation of the MPPR Report

7.7 Monitoring of Transgressions

7.1 Sampling Design and Plan

The Sampling Design and Plan is conducted by the work team at the central level and includes the following activities: gathering background, preparation of the statistical design, selection of sites to be sampled, species to be collected and analytes to be detected.

7.1.1 Statistical Design

The development of the statistical design will be the responsibility of an expert awarded through a tender, for which the terms of reference must be defined. The terms of the tendering procedure are defined by the Work Team of the central level in conjunction with the Sub-Department of Planning and Budget of the Agricultural and Forestry Protection Division.

For the development of the Statistical Design in vegetable products for export and domestic consumption, respectively, it is required to collect the following information and hand it to the expert, once the statistical design tendering procedure has been awarded:

Vegetables intended for export:

- Vegetable volumes inspected for phytosanitary certification per establishment and target market. (Source: Sectoral offices and exit points)



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

- Exported vegetables volumes (Source: Statistics published by the industry, for example Exporters Association or Business Associations).

Vegetable intended for domestic consumption:

- Vegetables volumes marketed in distribution centers and street markets.
- Production area
- Volumes of imported fruits and vegetables

This information must be obtained from official sources in the country. For example, Agricultural Research and Policies Office National Institute of Statistics, among other sources.

The calculation of number of samples will be defined in terms of:

- Exported vegetables volumes (intended for export) and sold (domestic consumption).
- Probability of transgressions based on the results of Monitoring Program for Pesticide Residues from previous years.
- Safety risk characteristics of vegetables associated with the use of pesticides (physiology, anatomy, form of consumption, etc.).

The statistical design shall contain at least the following information:

- Sampling unit.
- Number of samples to be taken by Species and Region.
- Sampling method.

The number of samples to be taken and species to be collected, will be reviewed and updated annually. The number of samples to be taken in the current season is presented in Annex 2.

7.1.2 Technical Design

Selection of Sampling Sites

The criteria for sampling sites selection correspond to:

- Inspected volumes (vegetables for import and export)
- Sold volumes (vegetables for domestic consumption)
- Geographic location
- Availability of fruit and vegetable products



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

The selection of the sampling sites for national consumption will be based on the crop production area, prioritizing sampling of fruit and vegetable products from the same region of origin.

Sampling will be done in the following points:

Fruit for fresh consumption export: samples for export assigned to the corresponding region must be taken in processing plants at the time of the phytosanitary inspection.

Frozen fruit for export (strawberry and raspberry): the samples assigned in the corresponding region must be taken in freezing plants.

Vegetables for domestic consumption: shall be taken at orchards and points of sales, according to the following distribution.

Orchards: it is estimated that 80% of the total samples assigned to the region, are taken from vegetables harvested in orchards.

Points of sale: It is estimated a 20% of all samples assigned to the region.

This percentage may vary and will remain open to the availability of fruit and vegetable horticultural in the regions.

Sampling sites will be annually reviewed and updated. Sampling sites selected for the current season are presented in Annex 3.

Selection of plant species

The selection criteria of plant species to be sampled correspond to:

- Export volumes (for monitoring vegetables intended for export)
- Sales and imported volumes (for monitoring vegetables intended for domestic consumption)
- Safety related aspects such as: form of consumption, morphological characteristics of the species and residues results from previous years.

Selection of analytes to be detected in the Laboratory analysis

To prepare the list of analytes to be detected the following information should be consider:

- Authorized pesticides for agricultural use in Chile.



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

- Analytical capacity of Laboratories authorized by SAG.
- Non-compliance notifications of maximum residue limits in exported products from Chile.
- Maximum Residue Limits of allowed Pesticides in plant species at national and international level.

The above information must be annually collected and review the list of analytes to be detected.

7.1.3 Sampling Plan

Once the statistical sampling design is established, the sampling schedule for the different selected plant species will be developed.

The distribution of the number of samples to be taken by each region will be annually prepared by the work team of the Central Level, and sent to regions through an Ordinary Official Letter from DEPAF's Head to Regional Directors. The number of samples collected per selected location and type of plant product may vary from Region to Region, due to the availability in plants and / or points of sale. The regional distribution of the number of samples and sampling locations must be defined by the corresponding region, whose responsibility is assigned to the Regional Responsible of Agricultural and Forestry Protection in conjunction with professionals, members of the sectoral offices participating in the Program.

7.1.4 Acquisition of sampling materials

The purchase of sampling materials must be made by the corresponding region, by public tender. Sampling materials are presented in Annex 4.

7.2 Sample Collection and Shipment

Samples for vegetables intended for export will be collected by SAG inspectors working in the phytosanitary inspection, and sampling for fruit and vegetable products for domestic consumption, will be conducted by professionals, members of the Pesticides Program, in both cases they will receive training in sampling method and shipment. Sampling guidelines will be conducted according to the collection guidelines presented in Annex 5. Annex 6 and Annex 7 presents specific guidelines for samples taken at sites of phytosanitary inspection and national points of sale, respectively. The size (sample weight) will be defined by Codex Alimentarius guidelines (Annex 8).

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

7.2.1 Sample identification

Samples should be identified with a code that includes the following parameters:

Number of the Region- Folio Number Correlative to FIM

- Tarapaca Region: 01-00000x
- Antofagasta Region: 02-00000x
- Atacama Region: 03-00000x
- Coquimbo Region: 04-00000x
- Valparaiso Region: 05-00000x
- O'Higgins Region: 06-00000x
- Del Maule Region: 07-0000x
- Del Bio Bio Region: 08-00000x
- Araucania Region: 09-00000x
- Los Lagos Region: 10-00000x
- Aysen Region: 11-00000x
- Magallanes Region: 12-00000x
- Metropolitan Region: 13-00000x
- Los Rios Region: 14-00000x
- Arica y Parinacota Region: 15-00000x

7.2.2 Counter samples

At the time of collection a sample and two counterexamples must be taken, in order to:

- Require corroboration of a doubtful result and decide on a sample. This requested by the central level.
- If a violation is reported and the involved party wishes to verify the result and requests the counter sample to present an evidence and appeal against a Complaint and Summons Record.

Counter samples should be stored in the sampling site under refrigeration or in SAG's sectoral offices. Actions to be taken with counter samples are presented in Annex 10.



MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

("Guidelines on actions to be taken by SAG against detections of pesticides in samples and counter samples taken in the Monitoring Program of Pesticide Residues, presenting violations to concerning regulations"

Additionally, check counter samples will be taken in order to validate methods and supervise the operation of Laboratories authorized by the Service. The application of this counter sample will be via e - mail and Ordinary Official Letter and it will be coordinated by the Head of the Sub-department of Vineyards and Wines, Safety and Biotechnology in conjunction with SAG's Laboratory of Environmental and Food Chemistry SAG.

7.2.3 Sample Conditioning

Vegetables free of decay, diseases and damage must be collected. Samples should be placed in paper bags, covered in a nylon one and in insulating boxes at refrigeration temperatures, containing at least four icepack on each insulating box.

7.2.4 Documents supporting the sample

Samples must be accompanied by the following documents:

- Sampling Information Form (Annex 11), which will be issued in triplicate, one for the Service, another will remain at the sampling place and the other for the selected laboratory (Copy of the FIM with the information for the analysis laboratory).

Upon completion of the sampling, the documents must remain at the sampling site:

- Copy of the FIM: for the counterpart of the sampling site.
- Foliated book: the inspector should write the observations of the sampling in the numbered book placed in the export inspection room.

7.2.5 Sample Records

Officials in charge of sampling must input the sample data in the system defined by SAG. They must maintain a Sampling Registration Form with the information presented in Annex 12.

7.2.6 Sampling Dates and Shipment to the laboratory

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

- Program Coordinators must inform Regional Coordinators regarding the awarded laboratories which will receive the samples and report any holiday or other day on which samples cannot be received by the laboratory.
- Sampling should not be performed on Fridays and for holidays, samples must be sent the day before the holiday.
- The deadline from which the sample is taken until it enters the laboratory, corresponds to 24 hours.
- If the selected laboratory is not in the sampling Region, these should be sent through a transport company.

7.3 Selection of Laboratories for analysis

Laboratories to perform analyzes are those authorized by SAG and will be selected by a public bidding process, in which the requirements and technical specifications to be met are established, including the analytes to be detected.

Contact points of the authorized laboratories by SAG are presented in Annex 12. Once the residue analysis is conducted, the selected laboratory must send the reports to the Agricultural and Forestry Protection Division, through the means defined by the DPAF

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

7.4 Data processing and analysis

Once the analysis result reports are received, Technical Coordinators of the Program will process the information compiling a tabulated data base, for subsequent analysis.

The results will be compared with the following standards:

- SAG regulations regarding the use and handling of pesticides
- MINSAL's MRL regulations in force.

In case of fruit intended for export, main target markets regulations should be considered (e.g. European Union, Codex Alimentarius, United States).

With the purpose of:

- Detecting the amount of samples with residues of unauthorized pesticides for plant species.
- Determining the number of samples that meet the requirements of the MINSAL's MRL regulations.
- Determining the number of samples with residues of prohibited pesticides, both domestically and in the export markets.

7.5 Actions to be taken with the results

The actions to be performed by SAG against non - compliance with corresponding regulations and counter samples, are presented in detail in Annex 10 ("Guidelines on actions to be taken by SAG against detections of pesticides in samples and counter samples taken in the Monitoring Program of Pesticide Residues, presenting violations to concerning regulations")

7.5.1 Non-compliance with SAG Regulations on Pesticides

The actions to be taken with samples that transgress SAG Regulations on Pesticides are presented in Annex 10.



MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

7.5.2 Non-compliance with MRL National Regulations (MINSAL Resolution No. 33/2010 and No. 762/2012)

The actions to be taken with samples that transgress SAG regulations on Pesticides are presented in Annex 10.

7.5.3 If an MRL of an external reference is exceeded (Russia, EU, Codex Alimentarius, United States)

The actions to be taken with the samples that transgress SAG regulations on Pesticides are presented in Annex 10.

Visits conducted to sampling sites where samples that transgress any regulation were found, must be registered in a means of verification. (Annex 15).

7.5.4 Monitoring

For those samples that showed noncompliance with the corresponding regulations, in the following season they may be considered for sampling in the corresponding regions. Once the Complaint and Summons Record is issued, the corresponding Region must monitor and send the transgression closeout report to the Head of the Agricultural and Forestry Protection Division.

The Complaint and Summons Record issued to producers for transgressions to the regulations on pesticides shall be covered in inspection activities for pesticide use, so they should be considered within the activities of this program and monitor correspondingly.

8. Information Storage

The information generated by the Program will be managed and stored under confidentiality conditions.

The information generated by the MPPR cannot be disclosed without the written consent of the Technical Committee.

Training files to which the sampling responsible have been subjected to, must be stored and updated by each professional belonging to MPPR. The files must contain the following information: purpose, date and place of training, name of trainer or instructor, list of participants and content of training subjects.



MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

The background and training of professionals responsible for the supervision and implementation of MPPR (Head of the Program, Technical Coordinator and Sampling Responsible) should be stored in databases and on specific files, under security and confidentiality conditions.

9. Preparation of the MPPR Report

A partial periodic and a final report shall be prepared on an annual basis, the content of the annual report is:

- Introduction
- Methodology
- Comparative results: samples that transgress the SAG's national legislation and that exceeds national MRL under the current standard, which exceeds the MRL of the Codex Alimentarius and the resolution of the actions by SAG
- Conclusions
- Bibliographic records

10. Communication of Results

Communication of results will be reported according to what described in points 7.5.1, 7.5.2 and 7.5.3 of this procedure.

11. Forms and Records

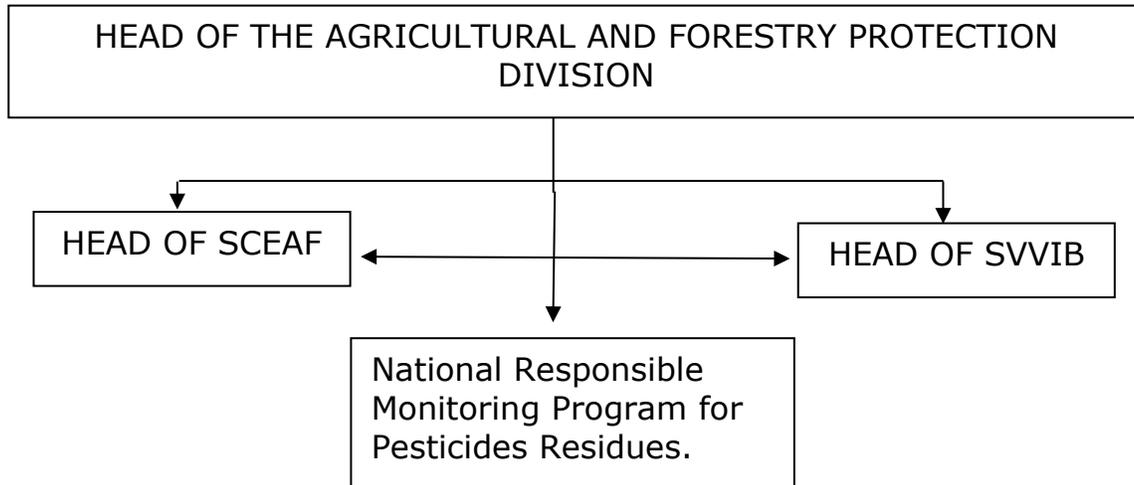
Sample Information Form: form to be completed by the Officers Responsible for Sampling, where the sample information is registered, including the date, sample sites, sample code, among others (Annex 10 Documents supporting the sample, Sample Information Form)

Sample Registration Form: form to be completed by the Officers Responsible for Sampling, through the means defined by the DPAF. It must contain the information presented in Annex 11.

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

ANNEXES

Appendix 1. Organization chart



Technical committee for Residues:

- Head of the Agricultural and Forest Protection Division
- Head of SCEAF
- Head of SVVIB
- Head of the Laboratories and Quarantine Department
- Head of the Safety Section
- National Responsible for the Monitoring Program for Pesticides Residues

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Annex 2. Number of samples to be taken

Table 1. Regional distribution of vegetable samples for pesticide residue analysis. Year 2016

Species	XV	I	II	III	IV	V	VI	VII	VIII	IX	XIV	X	XI	XII	RM	Total
Garlic												3				3
Chard		5	3	3		9	7	3	3	4	3	3	3	4	30	80
Artichoke					20	5	3								10	38
Celery					15	6									30	51
Onion	3					6										9
Corn	3				5	3										11
Spinach		5	3			11								4	50	76
Strawberry	4	3			8	7	3	5		6		3			15	54
Lettuce	6	5	6	6	38	46	14	5	10	6	3	3	3	4	50	205
Papaya					5											5
Cucumber salad	8				12	2	6								15	43
Cucumber (fruit)					15											15
Peppers	9			3	5	28	3								15	63
Green beans	6			5	6										55	72
Cabbage				3	10	10	3	6	3						10	45
Tomato	21			17	35	57	51	12	6	10					140	349
Zucchini	10			8	6	10	4	6	3						30	77
Carrot								3				3				3
Total	70	18	12	45	180	200	94	40	25	26	6	15	6	12	450	1199

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Table 2. Regional distribution of fruit samples for pesticide residue analysis. Year 2016

Especie	III	IV	V	VI	VII	VIII	IX	XIV	X	XI	RM	Total
Blueberries				15	65	22	8	6	8		15	136
Cherries				80	30					8	10	128
Plums				35	5						20	60
Clementines		13	10									23
Peaches			20	20							15	55
Raspberry					20				4			27
Strawberry					10							10
Pomegranate	3											3
Kiwis			10	25	15						20	70
Lemon		3	20								9	32
Tangerine			10								3	13
Apples				123	80	14	10					225
Orange		4	15								12	31
Nectarine			10	25							15	50
Avocados			40								10	50
Pear				45	15						10	73
Table grapes	47	35	75	120							20	297
Wine grapes				20	10							30
Total	50	55	210	508	250	36	18	6	12	8	159	1313



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Annex 3. Sampling sites

Vegetable intended for export:

Fresh fruit: sampling sites will correspond to fruit processing establishments of vegetable inspection for phytosanitary certification.

Frozen fruit: At frozen products processing plant.

Vegetable intended for domestic consumption:

Products intended for domestic consumption: sampling sites will be orchards and points of sale.

The percentage of samples taken in orchards and points of sale depends on the distribution of sales volumes and traceability.

Annex 4. Sampling Materials

Materials	Use
Paper bags	To deposit the collected sample
Plastic bags	To cover the paper bag
Insulating boxes	To save and send the sample
Activated icepacks (frozen)	To maintain the cold chain
SAG tape	To seal the insulating boxes
Sampling Information Form (FIM)	For sample information
Pencil	To write the Sampling Information Form (FIM)
Printed sheet with the laboratory address	Paste on the cover to send the box to the laboratory.



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Annex 5 Sampling Guidelines for Pesticide Residue Analysis in Fruit and Vegetable Products.

SAMPLING GUIDELINES FOR PESTICIDE RESIDUE ANALYSIS IN VEGETABLE AND FRUIT PRODUCTS

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Sampling Procedure Residue Monitoring Program

1) Availability check of Fruit and Vegetable products

1.1) Verification in sampling sites of fruit and vegetable products for domestic consumption.
Supermarkets and Distribution Centers: Storage places



Consult with the contact points in the sampling locations and check availability of fruit and vegetables products in the storage cellar.

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Orchards: Verify availability of harvested fruit ready to transport and market

Street markets and Supply Centers: check availability and schedule of the arrival of trucks with the contact point.



MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

1.2) Verification of fruit and vegetables products intended for export

Fruit and vegetable products plant or fruit intended for export packing:

Fruit and vegetables products for fresh consumption: check the list of fruit and vegetable products presented for phytosanitary inspection



MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Frozen fruit and vegetable products: check whether the processing line of the frozen products processing plant is in operation.



2) Sampling

2.1) Sampling Place and Time

Fruit and vegetables for domestic consumption

- In orchards: harvested vegetables, when vegetables are arranged in means of transport for distribution and / or marketing.
- In supermarkets and distribution centers: in the storage site. Samples of fruit and vegetable products must not be taken when being displayed on the shelves or gondolas inside the sale premises.
- In Street Markets or Supply Centers: at the arrival of fruit and vegetable products or at points of sale.

Fruit and Vegetable products intended for export:

- Fruit and vegetables products for fresh consumption: at the time of the phytosanitary inspection, the sample is extracted from the same selected boxes.
- Frozen fruit and vegetables products: at the end of the process line, placing the frozen vegetables directly into the nylon bag, paper bag must not be used.

The sample must come from the same producer, products from different producers should be mixed in one bag.

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

2.2) Handwashing

Hands must be washed before taking the sample and between each sampling.



2.3) Select the sampling unit (box or container)



2.4) Take the sample of the vegetables that are in the center of the sampling unit, place the sample in the paper bags wrapped in a plastic bag.

Unpacked vegetables are taken directly from the Sampling Unit

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS



For vegetables in packages or in smaller containers, the full container is taken until reaching the required number or weight



Frozen vegetables should be taken with gloves and place the sample directly into the nylon bag, paper bags must not be used.

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS



2.5) Check and record the sample traceability data.

It is important to take special care when collecting this information, with the data from the place of origin of the fruit and vegetable product and the producer, in order to facilitate communication and contact with the head.



MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

2.6) Weigh the sample (only if the conditions are appropriate to do this)



Sample size (amount required)

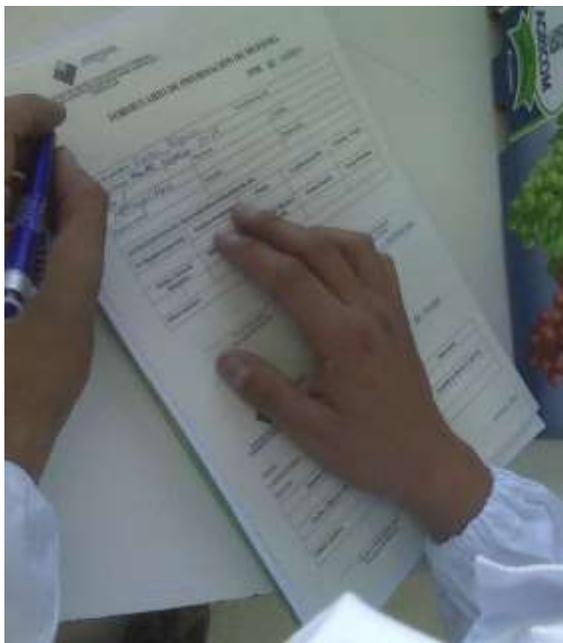
Species	Quantity	Species	Quantity
Cranberry	500g	Green beans	2 kilos
Strawberry	800 grams	Zucchini	6 units
Raspberry	800 grams	Peppers	20 units
Table grapes	2 kg. (7-8 clusters approx.)	Spinach	5 packs
Cherry	800 grams	Chard	4 tied
Nectarine	1 Kg. (10 units approx.)	Celery	2 packages
Apricot	1 Kg. (15 units approx.)	Lettuce	6 units
Peach	1 Kg. (10 units approx.)	Cabbage	1 unit
Kiwi	2 kg. (15 units approx.)	Cauliflower	1 unit
Apple	2 kg. (10 units approx.)	Frozen corn	2 kilos
Pear	2 kg. (10 units approx.)	Tomato	8 units
Plum	2 kg. (15 units approx.)	Banana	8 units
Dried plum	2 kg. (25 units approx.)	Pineapple	2-3 units
Lemon	2 kg. (15 units approx.)	Garlic	500 g or 5 units
Orange	2 kg. (10 units approx.)	Carrot	500 g or 5 units
Tangerine	2 kg. (15 units approx.)		
Avocado	2 kg. (10 units approx.)		

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

These amounts may be modified by the Laboratories, so it will be duly informed if it is necessary to increase or decrease the sample size.

2.7) Completing the Sample Information Form (FIM)

Upon completion of the FIM, special care should be taken when noting ALL information requested. It should be easy to locate the producer and to contact him/her.



MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

2.8) Place the FIM's yellow copy of the bottom part (Copy Laboratory) with the sample data between the paper and nylon bag.



- a) Original in white: Remains for SAG records.
- b) Yellow copy (upper part): Must be signed by the counterpart of the Sampling Site and keep the copy.
- c) Yellow copy (lower part): It is attached to the sample for subsequent dispatch to the assigned laboratory.

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

3) Sample conditioning and dispatch.

3.1) Place the samples in insulating boxes with icepack below and above them to maintain the cold chain. Each insulating box allows to transport two samples of the same species.



MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

3.2) Seal the box with tape and put the name of the laboratory which it will be sent to.



3.3) Send the sample to the assigned Laboratory on the same day of collection

4) Sampling Record

Sampling responsible in sectoral offices must register the samples taken in the means defined by the DPAF, for example in the computer system and must count with the Sample Registration Form, send it to the Regional Head of Agricultural and Forestry Protection, who will consolidate the Regional Registration Form (or his/her designee to perform this activity) and shall send it **weekly** to the central level.

Conclusions

The selection of species is subject to availability so if changing a species is required because there are not any fruit and vegetable products in the sampling site, this Program is flexible and changes can be made when appropriate, however the number of assigned samples should be kept and meet the annual sampling target. These changes must be reported to the central level.

All questions and comments must be sent to the Sub-department of Vineyards, Wines, Safety and Biotechnology, by e-mail to:

Head of the Safety Section, Responsible for MPPR

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Annex 6. Sampling Guidelines for Pesticide Residue Analysis in Phytosanitary Inspection Sites of vegetable for exports

STAGE	Activity
BEFORE SAMPLING	
	1) Check the list of materials. (Annex 4)
	2) Freeze Icepack
	3) Check vehicles
	4) Check the inspections schedule in the inspection scheduling system
	5) Check Transport Companies hours of operation (e.g. Chilexpress)
DURING SAMPLING	
Upon arrival at the Sample Site	6) Check the inspection schedule, target market and fruit availability
During collection:	7) Once the sample boxes to be inspected are selected, and having inspected the fruit, the sample sample and counter samples will be taken from the same box.
	8) Arrange the materials and leave them on a firm base (counter).
	9) Place 4 icepack in the boxes to keep them cool
	10) Plug and calibrate the scale.
	11) Select the sampling unit (the box(es) from which the sample will be taken)
	12) Wash hands before taking the sample
	13) Collect the sample and counter samples from the selected box
	14) Place the sample and counter samples inside the paper bag, covered in the nylon bag
	15) Leave the bags of samples opened in the insulating boxes
	16) Fill the Sampling Information Form based on the information on the inspected box label.
	17) Place the sample ID * between the paper and nylon bag (yellow for the laboratory).
	18) Close the bags and place them in the insulating boxes
	19) Close and seal the insulating box, placing two icepacks under and two icepacks over the bag containing the sample
	20) Stick name and address of the destination laboratory on the lid of the box
21) Provide a copy of the FIM and the counter samples to the SAG's counterpart	
22) Arrange the materials, save, and eliminate waste.	
Registry	23) Complete the foliated book of the inspection plant with the Sampling Record on the day.
AFTER SAMPLING	
Sample Transport	24) Send the box to the Laboratory, through direct dispatch in the MR and through Chile Express (in regions). The dispatch must be charged to the regional's current account number



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Registry	25) Update the Sampling Record.
----------	---------------------------------

Annex 7. Sampling Guidelines for Pesticide residue analysis in vegetables for domestic consumption

Annex 7.1 Sampling in Distribution Centers or Points of Sales

STAGE	Activity
BEFORE SAMPLING	
	1) Check the list of materials. (Annex 4)
	2) Freeze Icepack
	3) Check vehicles
	4) Check Transport Companies hours of operation (eg.Chilexpress) for sampling in regions
DURING SAMPLING	
Upon arrival at the Sample Site	5) Check the arrival schedule of trucks
During collection:	6) Select the boxes that have been harmonized and come from one producer
	7) Arrange the materials and leave them on a firm base (counter or truck).
	8) Place 4 icepack in the boxes to keep them cool
	9) Plug and calibrate the scale. (if any)
	10) Select the box(es) from which the sample will be taken
	11) Wash hands before taking the sample
	12) Collect the sample and counter samples from the selected box
	13) Place the sample and counter samples inside the paper bag, covered in the nylon bag
	14) Leave the bags of samples opened in the insulating boxes
	15) Fill the Sample Information Form
	16) Place the sample ID * between the paper and nylon bag (yellow for the laboratory).
	17) Close the bags and place them in the insulating boxes
	18) Close and seal the insulating box, placing two icepacks under and two icepacks over the bag containing the sample
	19) Stick name and address of the destination laboratory on the lid of the box
20) Provide a copy of the FIM and the counter samples to the SAG's counterpart	
21) Arrange the materials, save, eliminate waste	
AFTER SAMPLING	



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Transport Sample	22) Send the box to the Laboratory, through direct dispatch in the MR and through Chile Express (in regions). Counter samples will be stored in SAG's refrigerators of the Sectoral offices and will be eliminated once the results are received. (Maximum storage time: 1 month)
Laboratory Reception	23) Request a Sample Taking-over Certificate
Notes	24) Write down the observations of the sampling on the day.
Sampling Record	25) Update the Sample Record



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Annex 7.2 Sampling in National Orchards

STAGE	Activity
BEFORE SAMPLING	
	1) Check the list of materials. (Annex 4)
	2) Freeze Icepack
	3) Check vehicles
	4) Check Transport Companies hours of operation (e.g. Chilexpress) for sampling in regions
DURING SAMPLING	
Upon arrival at the Sample Site	5) Check if they are in harvest of the crop.
During collection:	6) Select the boxes that have been harmonized by the producer.
	7) Arrange the materials and leave them on a firm base (counter or truck).
	8) Place 4 icepack in the boxes to keep them cool
	9) Plug and calibrate the scale. (if any)
	10) Select the box(es) from which the sample will be taken
	11) Wash hands before taking the sample
	12) Collect the sample and counter samples from the selected box
	13) Place the sample and counter samples inside the paper bag, covered in the nylon bag
	14) Leave the bags of samples opened in the insulating boxes
	15) Fill the Sample Information Form
	16) Place the sample ID * between the paper and nylon bag (yellow for the laboratory).
	17) Close the bags and place them in the insulating boxes
	18) Close and seal the insulating box, placing two icepacks under and two icepacks over the bag containing the sample
	19) Stick name and address of the destination laboratory on the lid of the box
	20) Provide a copy of the FIM and the counter samples to the SAG's counterpart
21) Arrange the materials, save, eliminate waste	
AFTER SAMPLING	
Transport Sample	22) Send the box to the Laboratory, through direct dispatch in the MR and through Chile Express (in regions). Counter samples will be stored in SAG's refrigerators of the Sectoral offices and will be eliminated once the results are received. (Maximum storage time: 1 month)
Laboratory Reception	23) Request a Sample Taking-over Certificate
Registry	24) Update the Sample Record

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Annex 8. Sample size according to the Codex Alimentarius.

CLASSIFICATION OF PRODUCTS	EXAMPLES	MINIMUM SAMPLE SIZE
1. Small sized fresh products, units < than 25 gr.	Lettuce, spinach, olives.	1 Kg.
2. Medium sized fresh products, units from 25 to 250 gr.	Tomatoes, apples, oranges, pears, peaches, others.	1 Kg. (10 units, at least).
3. Large sized fresh products, units > 250 gr.	Cabbages, celery, cucumbers, grapes, lemons, melons and beets.	2 kg. (5 whole units)

**Source: RECOMMENDED SAMPLING METHODS FOR DETERMINING PESTICIDE RESIDUES FOR COMPLIANCE WITH MRLS
CAC / GL 33-1999**

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Reference table of the sample size.

Species	Quantity	Species	Quantity
Cranberry	500g	Green beans	2 kilos
Strawberry	800 grams	Zucchini	6 units
Raspberry	800 grams	Peppers	20 units
Table grapes	2 kg. (7-8 clusters approx.)	Spinach	5 plants
Cherry	800 grams	Chard	4 bunches
Nectarine	1 Kg. (10 units approx.)	Celery	2 packages
Apricot	1 Kg. (15 units approx.)	Lettuce	6 units
Peach	1 Kg. (10 units approx.)	Cabbage	1 unit
Kiwi	2 kg. (15 units approx.)	Cauliflower	1 unit
Apple	2 kg. (10 units approx.)	Frozen corn	2 kilos
Pear	2 kg. (10 units approx.)	Tomato	8 units
Plum	2 kg. (15 units approx.)	Banana	8 units
Dried Plum	2 kg. (25 units approx.)	Pineapple	2-3 units
Lemon	2 kg. (15 units approx.)	Garlic	500 g or 5 units
Orange	2 kg. (10 units approx.)	Carrot	500 g or 5 units
Tangerine	2 kg. (15 units approx.)		
Avocado	2 kg. (10 units approx.)		



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Annex 9 Actions to be taken with transgressive results and counter samples

GUIDELINES ON ACTIONS TO BE PERFORMED BY SAG FACING PESTICIDES DETECTIONS IN SAMPLES TAKEN IN THE MONITORING PROGRAM FOR PESTICIDES RESIDUES WHICH TRANSGRESS REFERRING REGULATIONS

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

1) Reception of information and data analysis

1.1) Reception of Laboratory results

The results of the analysis of pesticide residues are received through email from awarded Laboratories under the following formats:

- Results reports in PDF format, includes the positive detections, the value of the National Maximum Residue Limit (MRL) according to Resolutions 33/2010 and 762/2011 of MINSAL, the value of MRL is placed next to the detected value, if there are no MRLs in this regulation, then it should say "Without MRL".
- The name of the PDF file with the results report should contain the sample number and identification.
- Safety Computer System: This platform will register the sample results taken in each region and will compare them with the corresponding regulations. This system allows to export the data to an Excel format, generating a database of results

1.2) Data Analysis

Once the data is received both at central and regional level, the verification of the results comparison will be conducted, supported by the computer tool.

If the computer system is not working, a data base in an Excel spreadsheet must be developed or extracted, which must contain at least the following information arranged in columns:

Region, Laboratory, Laboratory Report No., Laboratory Sample No., Laboratory date of entry, Sampling date, Date of report issuance. Species. FIM. Pesticide, Detected value (mg / kg).

After tabulating the information in the respective columns, they are compared with the following standards:

- SAG regulation: Resolution 3670 and its amendments regarding SAG's authorized use on the pesticide label regarding crops.
- Maximum Residue Limits (MRLs) set by:
 - o Resolution 33/2010 of MINSAL
 - o Resolution 762/2011 of MINSAL
 - o Codex Alimentarius
 - o Russia (Regulation 1.14 and its amendments) and / or Codex (only for samples of vegetables intended for export)
 - o European Union (Regulation 396/2005) (only for samples of vegetables intended for export)
 - o Indonesia
 - o The United States



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

2) Actions to be taken by SAG against non-compliance with corresponding regulations and information flow

Actions to be taken, responsible people and corresponding deadlines for breaches to SAG regulations and the national MRL regulations with supporting report, are detailed below:

2.1) Non-compliance with SAG Regulations related to unauthorized use on pesticide labels

- In the case of samples in which unauthorized pesticides residues for the species are found, an inspection of use and management must be conducted and submit a Complaints and Summons Record to the producer. Having issued the Complaints and Summons Record, the corresponding SAG's regional court will apply the regulations in force, using the result of the analysis as a means for verifying a breach of the regulations.
- Report and send the results of the inspection to the Central Level, the SVVIB and Head of the Agricultural and Forestry Protection Division

2.2) Non-compliance with MRLs National Regulations (MINSAL Resolutions 33/2010 and 762/2011)

- For those samples in which a breach of the National MRLs is found, an inspection of the use of pesticides to farmers must be conducted, gathering information on pesticide application and if during that process a breach of SAG regulation is found, according to the product label instructions, the corresponding Complaints and Summons Record must be issued.
- Furthermore, these results should be reported through an Ordinary Official Letter, to the Regional Health Ministry (SEREMI). The Ordinary Official Letter, the contents to be attached and its amendments will be sent from the central level through email.

2.3) MRL exceedance of an external reference (Russia, EU, Codex Alimentarius)

- In the case of samples exceeding the external LMR, an investigation through a pesticide inspection of use and management must be conducted, in order to determine whether fruit with the same condition had been exported to destination countries governed

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

by these MRL's regulations, and commit producers and / or processing plants to make the necessary improvements in order to avoid potential breaches abroad.

- During the inspection, the information on pesticide application must be collected and if during that process a breach of SAG regulations is detected, according to the product label, the corresponding Complaints and Summon Record must be issued.

3) Actions to be taken with counter samples

Regarding counter samples, once the results of the samples that transgress any national regulation are compared and reported, in order to verify the data, counter samples may be required by the following interested parties:

- SAG: If a doubtful result needs to be corroborated and a dubious result and decide on a sample. This is coordinated by the Responsible of the MPPR of the central level.
- The transgressor involved: in the event that the affected party may require to verify the result and requests the counter sample to present evidence and to appeal against a Complaint and Summons Record.

If the user requires the counter sample, the following guidelines should be followed:

i) The user must inform the SAG (sampler or otherwise) in writing that requires the counter sample, indicating the address where it is stored.

ii) The sampler should inform the user by e - mail or simple letter, that the cost of analysis and shipping is the responsibility of the user, that the counter sample should be sent to an SAG's authorized laboratory (the sampler should report the list of authorized laboratories), that in order to maintain the counter sample chain of custody, the SAG will remove the counter sample from the storage place, the date and the laboratory to which the counter sample is intended to be sent, must be indicated. As an example following letter is presented:

Mr. xxxxx

We extend cordial greetings to you and in relation to your request for using SAG's counter sample, attached you will find the list of laboratories where counter sample analysis can be made.

Regarding the removal of the counter sample, it is noted that although the counter sample is stored in your premises and under guard, it still continues being under SAG's custody and therefore if it is decided to make the corresponding analysis, it must be requested by this means of communication and indicate the chosen laboratory and date, the sample will be removed by our staff and sent to the laboratory selected by you.



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

It should be noted that the cost of the analysis is the applicant's responsibility, so we request you to contact the selected laboratory for the payment corresponding to the requested analysis.

Finally, I inform you that test results will be available to the SAG to continue the infraction process.

We will be waiting for your answer.

- iii) Laboratories with current authorization of SAG, for pesticide residue analysis are detailed in Annex 13.
- iv) The Regional Responsible of the Agricultural Protection or otherwise, must inform the central level that the counter sample will be sent, indicating the selected laboratory, the background of the sample (Species, FIM) and contact details of the requesting user .
- v) The central level shall inform the selected laboratory regarding the dispatch of the counter sample, indicating that the cost of analysis is the responsibility of the user and that the results should be sent to the user (client) with a copy to SAG

If the sample that transgressed any national regulation, comes from a different region from which it was taken, the region in which the sample was taken must report directly to the region of origin of the vegetable, by email to the Head of the PROTRAF with a copy to the Head of the Safety Section of the Central Level (Sub-department of Vineyards and Wines, Safety and Biotechnology)

4) Monitoring

For those samples that showed non-compliance with the regulations in the corresponding regions, they must be considered in sampling of the next season.

The issued Complaints and Summons Record for misuse of pesticides, will be considered in the number of inspections planned by the region and will be included within the Institutional Performance Indicator (Spanish acronym IDI) of pesticides which will allow its tracking the following year.



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Annex 10. Documents supporting the sample

No. 06-XXX

**SAMPLE INFORMATION FORM
SAFETY MONITORING PROGRAM
AGRICULTURAL AND FORESTRY PROTECTION DIVISION**

SAG Region/Office	
Sampling date	
Species	
Variety / type	
Batch number (export)	
Name of Producer	
Producer ID Number	
Name of the land	
Land CSG Code (Export)	
Address of the sampling place	
Coordinates of the sampling place	
Name of the baling plant	
ID Number of the baling plant	
Code of the baling plant (CSP)	
Name of the export company	
Target market	
Crop area	
Harvest date	
Packaging date	
Traditional / Organic	
Observations	

Type Analysis: Make a cross X

Chemical		Microbiological		Physical	
Pesticides		Bacteria			
Additives		Virus			
Heavy metals		Norovirus			

Applied pesticide (full trade name)	Dose	Application date



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

SAMPLER NAME

SAMPLER SIGNATURE

COUNTERPART NAME

COUNTERPART SIGNATURE

Dotted line

No. 06-XXX

Region / Sectoral Office	
Sample identification	Region-Species-Sampling place-FIM
Species	
Laboratory / Analysis	
Name of the sampling officer	
National destination:	
Export market:	
Sampling date:	
Observations	

Signature Sampling Officer of SAG



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Annex 11. Sampling Registration Form and Results Form

The information of the Sampling Registration Form must be obtained from the computer system. If the system is not running, the following records must be developed:

11.1 Sampling Registration Form of Vegetables Intended for Exports

Region	SAG Of.	District	Species	Var.	Plant name	Associated exporter	Date Sampling	FIM No.	Sample ID.	Producer ID.	Name Auth Lab.	Sampling officer	Traditional / Organic	Obs.	Country of Destination

11.2 Sampling Registration Form of Vegetables Intended for Domestic Consumption

Region	SAG Of.	District	Species	Var.	Sampling site	Sampling date	FIM No.	Sample ID.	Producer ID.	Origin	Name Auth Lab.	Sampling officer	Traditional / Organic	Obs.



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Annex 12. Contact Points of Laboratories Authorized by SAG for pesticide residue analysis

Laboratory name	Contact
BUREAU VERITAS CHILE S.A.	Ramón Freire 50, Parque Industrial Los Libertadores, Colina, Metropolitan Region (2) 2485 90 58 bureauveritas@bureauveritas.cl
GESTIÓN DE CALIDAD Y LABORATORIO S.A.	Parque Antonio Rabat 6165, Vitacura, Metropolitan Region (2) 2400390 mtorres@fundaciónchile.cl esalinas@fundaciónchile.cl
AGQ CHILE S.A	Los Industriales 697, Huechuraba, , Metropolitan Region (2) 7544000 calidadagq@agriquem.cl
COMERCIAL ANALAB CHILES.A	Exequiel Fernandez 3592, Macul, Metropolitan Region (2) 7131500 analab@analab.cl
SGS CHILE LIMITADA	Ignacio Valdivieso N° 2409, San Joaquín District, Metropolitan Region. ((41) 2416477 luis.roa@sgs.com
LABORATORIO AGROENOLÓGICO UNIVERSIDAD CATÓLICA DEL MAULE	Longitudinal Sur Km. 205, Camino a Molina S/N, Molina District, Maule Region. (75) 491298 laboratorio@enolabucm.cl
CORTHORN QUALITY CHILE S.A.	Palacio Riesco 4549, Huerchuraba Region, Santiago, (56-2) 5808000, co



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Annex 13. INSTRUCTIONS FOR LABORATORIES REGARDING SENDING INFORMATION TO SAG

Laboratories to be awarded the results analysis, shall enter the results into the safety computer system.

If the platform is not available, laboratories should:

1) Information to be sent by awarded laboratories to SAG:

2a) Entry form of the sample to the laboratory. This form allows to calculate the number of days between the entry of the sample and thus allows to speed up the payment process. Delivery format: in Table 1, an example of how this form should be completed is presented, as it should be sent to SAG

Table 1. Entry form of the sample to the laboratory.

No.	Species	Sampling date	Reception date	Report issuance and dispatch date to SAG	Number of working days between dispatch and reception of the report	Sample identification	FIM	Laboratory Report No.	Laboratory Sample No.	Name of Sampling Officer
1	Apple	08-06-2010	10-06-2010	16-06-2010	6	06-652-MA-2150	2150	297054	569441	
2	Apple	08-06-2010	10-06-2010	16-06-2010	6	06-652-MA-2149	2149	297056	569443	
3	Apple	08-06-2010	10-06-2010	16-06-2010	6	06-652-MA-2151	2151	297060	569444	
4	Apple	09-06-2010	10-06-2010	16-06-2010	6	06-653-MA-2154	2154	297065	569446	

2b) PDF Results Report

Dispatch deadline: Send results within the number of days indicated in the application, according to the award Resolution and provisions of the contract between the awarded supplier and the SAG. If the defined deadline is not met, a fine will be imposed.

Delivery Format: Send the reports in PDF format, placing the value of National Maximum Residue Limit (MRL) of the Ministry of Health (according to Resolution 33/2010 and / or 762/2011) on positive detections, next to the detected value, if there are no MRLs in this regulation then "without MRL" must be noted next to the detected value.

The name of the PDF file should contain the sample number and identification. (Click "save as") Example of file name:

L-8966-7-715-Mz-5747

2.c) Results form compared with the National MRLs

Delivery Format: Send the database results in an Excel spreadsheet, including the comparison regarding the National MRLs Regulation according to the example presented in Table 2.

Table 2. Results form of pesticide residues and its comparison with the national MRLs

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

Region	Laboratory Report No.	Laboratory Sample No.	Laboratory Date of Entry	Sampling date	Date of report issuance.	Species	Sample identification	FIM	Pesticide	Value (mg / kg)	Over the 33 MRL (YES / NO)	Meets the MRL Res 762?
Coquimbo	8120266	80859309	25-03-2011	23-03-2011	31-03-2011	Grapes	4-728-UVA-2339	2339	2,4 - D	0,00	NO	Fails
Coquimbo	8120266	80859309	25-03-2011	23-03-2011	31-03-2011	Grapes	4-728-UVA-2339	2339	azoxystrobin	0.03	NO	
Coquimbo	8120263	80859309	25-03-2011	23-03-2011	31-03-2011	Grapes	4-728-UVA-2339	2339	carbaryl	0.08	NO	
Coquimbo	8120266	80859309	25-03-2011	23-03-2011	31-03-2011	Grapes	4-728-UVA-2339	2339	difenoconazole	0,0	NO	
Coquimbo	8120263	80859309	25-03-2011	23-03-2011	31-03-2011	Grapes	4-728-UVA-2339	2339	methomyl	0,46	YES	
Coquimbo	8127897	80864048	01-07-2011	29-06-2011	08-07-2011	Lemon	04-416-L-2347	2347	2,4 - D	1,47	YES	Fails
Coquimbo	8127896	80864048	01-07-2011	29-06-2011	08-07-2011	Lemon	04-416-L-2347	2347	thiabendazole	0,43	NO	
Coquimbo	8127899	80864048	01-07-2011	29-06-2011	08-07-2011	Lemon	04-416-L-2347	2347	imazalil	0,96	NO	

3) Who should the Entry and results form of the sample be sent to?

3a) Entry form of the sample (Example Table 1). This should be weekly sent (Fridays) by email to the regional contact points shown in Table 3, in case of delays, it should be reported by e-mail to the mentioned contact points at regional and central levels, if the deadline mentioned in the application is not met, a fine will be imposed.

Table 3. Regional contact points

Region	Contact point	Mail
I First - Tarapaca Region	Sue Vera	sue.vera@sag.gob.cl
I First - Tarapaca Region	Luis Diaz	luis.diaz@sag.gob.cl
II Second - Antofagasta Region	Mario Astorga	mario.astorga@sag.gob.cl
III Third - Atacama region	Mei Maggi	mei.maggi@sag.gob.cl
III Third - Atacama region	Paola Salinas	paola.salinas@sag.gob.cl
III Third - Atacama region	Carolina Pizarro	carolina.pizarrosag.gob.cl
IV Fourth – Coquimbo Region	Carmen Perez	carmen.perez@sag.gob.cl
IV Fourth – Coquimbo Region	Jorge Mautz	jorge.mautz@sag.gob.cl
V Fifth – Valparaiso Region	Mery Maria Messina	maria.mery@sag.gob.cl
V Fifth – Valparaiso Region	Corvalan Carolina	carolina.corvalan@sag.gob.cl
V Fifth – Valparaiso Region	Emanuel Arancibia	emanuel.arancibia@sag.gob.cl
V Fifth – Valparaiso Region	Fernando Pena	Fernando.pena@sag.gob.cl
VI - O'Higgins Region	Claudio Moore	claudio.moore@sag.gob.cl

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

VI - O'Higgins Region	Karla Lopez	karla.lopez@sag.gob.cl
VI - O'Higgins Region	Quintanilla Danol	danol.quintanilla@sag.gob.cl
VII - Maule Region	Fernando Pinto	fernando.pinto@sag.gob.cl
VII - Maule Region	Alexis Calabran	alexis.calabran@sag.gob.cl
VII - Maule Region	Johanna Gonzalez	johanna.gonzalez@sag.gob.cl
VII - Maule Region	Marcos Villalobos	marcos.villalobos@sag.gob.cl
VIII - Bío Bío Region	Rodrigo Ther	rodrigo.ther@sag.gob.cl
VIII - Bío Bío Region	Francisco Flores	francisco.flores@sag.gob.cl
IX - Araucanía Region	Carmen Gloria Velasquez	carmen.velasquez@sag.gob.cl
IX - Araucanía Region	Francisco Castillo	francisco.castillo@sag.gob.cl
IX - Araucanía Region	Vallejos Isabel	isabel.vallejos@sag.gob.cl
IX - Araucanía Region	Giordana Baldo	giordana.baldo@sag.gob.cl
IX - Araucanía Region	Alejandra Abarzua	alejandra.abarzua@sag.gob.cl
X - Los Lagos Region	Carolina Giovannini	carolina.giovannini@sag.gob.cl
X - Los Lagos Region	Javier Molina	javier.molina@sag.gob.cl
XI - Aysen Region	Martin Cumian	martin.cumian@sag.gob.cl
XII - Magallanes Region	Hugo Mansilla	hugo.mansilla@sag.gob.cl
XII - Magallanes Region	Ivonne Uribe	ivonne.uribe@sag.gob.cl
XIII - Metropolitan Region	Andres Leiva	andres.leiva@sag.gob.cl
XIII - Metropolitan Region	Lorena Navarro	lorena.navarro@sag.gob.cl
XIII - Metropolitan Region	Juan Valenzuela	juan.valenzuela@sag.gob.cl
XIV – Los Rios Region	Daniel Cabello	daniel.cabello@sag.gob.cl
XIV – Los Rios Region	Daniel Rudloff	daniel.rudloff@sag.gob.cl
XIV – Los Lagos Region	Rodolfo Medina	rodolfo.medina@sag.gob.cl
XV - Arica and Parinacota Region	Carlos Cortes Monroy	carlos.cortesmonroy@sag.gob.cl
XV - Arica and Parinacota Region	Francisca Estefane	francisca.estefane@sag.gob.cl
XV - Arica and Parinacota Region	Manuel Centella	manuel.centella@sag.gob.cl

3b) Reports results in PDF format with the file name containing the Sample number - Sample identification. It should be sent to the contact points of the region from which the sample comes with a copy to the central level to Adriana Valenzuela (adriana.valenzuela@sag.gob.cl), Ignacio Figueroa (ignacio.figueroa@sag.gob.cl) and Pedro Enriquez (pedro.enriquez@sag.gob.cl).

3c) Results form compared to national MRLs



GUIDELINE

MONITORING PROGRAM FOR PESTICIDE RESIDUES IN FRUIT AND VEGETABLE PRODUCTS

It should be sent to the regional contact points at the central level: Adriana Valenzuela (adriana.valenzuela@sag.gob.cl), Ignacio Figueroa (ignacio.figueroa@sag.gob.cl).

