

Malta's National Action Plan
for the Sustainable Use of Pesticides

2019 - 2023

MCCAA

MALTA COMPETITION AND
CONSUMER AFFAIRS AUTHORITY

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TABLE OF CONTENTS

EXECUTIVE SUMMARY 4
ABBREVIATIONS AND ACRONYMS 5
LIST OF DEFINITIONS 6
1. INTRODUCTION 9
1.1. Background information on Malta 9
1.2. Plant Protection Products Usage in Malta 9
1.2.1. Areas Treated 9
1.2.2. Application Methods 10
1.2.3. Active Substances 10
2. CURRENT LEGISLATION RELATED TO PLANT PROTECTION PRODUCTS 13
2.1. National Legislation 13
2.2. Other Legislation 13
3. REVISION OF THE NATIONAL ACTION PLAN ON SUSTAINABLE USE OF PESTICIDES 15
4. TRAINING, INFORMATION AND AWARENESS-RAISING 16
4.1. Distributors 16
4.2. Professional Users 18
4.3. Trainers 19
4.4. Advisors 20
4.5. Non-Professional Users and the General Public 20
4.6. Guidance Material Development 22
4.6.1. Guidance material for non-professional users and the general public 22
4.6.2. Guidance material for professional users 22
5. CONTROLS ON PESTICIDE APPLICATION EQUIPMENT 24
5.1. Testing and Certification of Pesticide Application Equipment (PAE) 24
5.2. Establishment and Management of a list of Qualified Inspectors 25
6. CONTROLS ON HANDLING, STORAGE AND DISPOSAL OF PLANT PROTECTION PRODUCTS 27
6.1. Occupational and Public Health and Safety considerations during the Handling of Plant Protection Products 28
6.1.1. Risk Assessment 28
6.1.2. Control Measures 28
6.1.2.1. Prevention of Plant Protection Products Exposure 29
6.1.2.2. Control of Plant Protection Products Exposure 29
6.2. Controls on Specific Handling of Plant Protection Products 30
6.3. Controls on Storage and Transport of Plant Protection Products 33
6.4. Controls on Disposal of Plant Protection Products 34

6.5. Record-keeping 34
7. CONTROLS ON THE USE OF PLANT PROTECTION PRODUCTS IN SPECIFIED AREAS 36
7.1. Aerial Application 36
7.2. Reduction of Pesticide Use or Risks in Specific Areas 37
7.3. Protection of the aquatic environment and drinking water 38
8. INTEGRATED PEST MANAGEMENT AND ALTERNATE LOW PESTICIDE-INPUT PEST MANAGEMENT STRATEGIES 40
8.1. Identification of Risk Levels for Farmers 41
8.2. Provision of Advisory services 42
8.3. Promotion of Organic Farming 43
9. RISK INDICATORS AND DATA GATHERING 45
9.1. Risk Indicators 45
9.2. Data Gathering 45
9.2.1. Data on Sales and Usage of PPPs 45
9.2.2. Data Gathering and Monitoring from Controls on the Aquatic Environment and Drinking Water 46
9.2.2.1. Drinking Water 46
9.2.2.2. Coastal inland and Transitional Waters (Surface Water) 47
9.2.2.3. Groundwater 48
9.2.3. Data Gathering on Acute and Chronic Poisoning and Development of Risk Indicators for Human Health 49
10. INDICATORS USED IN THE REVIEWED NATIONAL ACTION PLAN COVERING THE PERIOD 2019-2023 51
11. ENFORCEMENT OF THE NATIONAL ACTION PLAN ON THE SUSTAINABLE USE OF PESTICIDES IN MALTA 58
11.1. Functions, Powers and Duties of the Competent Authority 58
11.2. Enforcement 58
ACKNOWLEDGEMENTS 60
ANNEXES 61
Annex I – PAE Inspection Schedules and Validity Periods 61
Annex II – Information to be evaluated on the Dangers associated with the Use of Plant Protection Products 62
Annex III – Personal Protective Equipment Practice during the application of Plant Protection Products 64
Annex IV – Good Practice for the storage of Plant Protection Products 66
Annex V – Buffer Zones for the protection of non-target aquatic organisms and safeguard zones for surface and groundwater used for the abstraction of drinking water 67

LIST OF FIGURES

Figure 1. Pesticide Application Methods % usage for the treatment of formulated areas. 10
Figure 2. Weight of substance by chemical family (kg) used for treatment by month of application. ... 11
Figure 3. Formulation Area (ha) treated with Pesticides by month of application. 12

LIST OF TABLES

Table 1. The basic area (ha) treated with PPPs, expressed as a percentage of the total cultivated area (ha), per each of the following type of cultivation. 9
Table 2. The average quantity of active substance applied per formulation area treated (in kg/ha) for the different types of plant protection products. 10
Table 3. The handling techniques and risk mitigation measures applicable for each activity covered during the application of PPPs 32
Table 4. The Indicators of prgess for the reviewed NAP covering the period 2019-2023 57

EXECUTIVE SUMMARY

The adoption of a National Action Plan (NAP) for the sustainable use of pesticides for Malta is an obligation of all Member States, set out under Article 4 of Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 concerning the sustainable use of pesticides. The aforementioned Directive has been transposed into national legislation by Legal Notice 489 of 2011 (Subsidiary Legislation 430.08, Sustainable Use of Pesticides Regulations), with the aim of establishing a framework for Community action to achieve the sustainable use of pesticides. The NAP shall describe how the measures pursuant to Regulations 4 to 14 Legal Notice 489 of 2011 are to be implemented.

Malta's first NAP for Sustainable Use of Pesticides covering the period 2013-2018, set out a national strategy and established objectives, targets, measures, and timelines to reduce risks and impacts of pesticide use on human health and the environment, whilst encouraging integrated pest management and alternative approaches or techniques to reduce pesticide-use dependency.

Regulation 3 of Legal Notice 489 of 2011 requires each Member State to review the NAP at least every 5 years. The second NAP for the sustainable use of pesticides covering the period 2019-2023, shall expand on the framework of the former NAP to consolidate the previously set objectives, targets and measures, with ongoing actions, whilst establishing further specific actions to support the main areas' objectives. The revision of the NAP takes account of the social, economic and environmental impacts of the previous actions, in addition to the health of the public. The subsequently ratified reviewed plan focuses on improvement of the previous actions directed at a better outcome.

The revised NAP has been developed following the comprehensive consultation with stakeholders, including the public. The approach used for the revision is a combination of legislative measures and other initiatives with the main aim to generate an efficient tool to support the sustainable use of pesticides in Malta.

As during the execution of the former NAP, respective entities and other stakeholders shall continue to contribute to the respective actions in the revised plan. The revised five-year plan shall continue to allow for the correct identification of the needs and progressive objectives to support the sustainable use of pesticides in Malta.

The reviewed NAP consists of 6 main area objectives:

a. Training, Information and Awareness-raising
b. Controls on Pesticide Application Equipment
c. Controls on Handling, Storage and Disposal of Plant Protection Products
d. Controls on the use of Plant Protection Products in Specified Areas
e. Integrated Pest Management and alternate low pesticide input pest management strategies
f. Risk Indicators and Data Gathering

ABBREVIATIONS AND ACRONYMS

AD	Agriculture Directorate
BTSF	The Better Training for Safer Food Initiative of the European Union
CAP	Common Agricultural Policy
CLP	Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of substances and mixtures
ERA	Environment and Resources Authority
EWA	Energy and Water Agency
GAEC	Good agricultural and environmental conditions
GWD	Groundwater Directive
IPM	Integrated Pest Management
MA	The Managing Authority
MCCAA	Malta Competition and Consumer Affairs Authority
MCPA	2-methyl-4-chlorophenoxyacetic acid, a phenoxy herbicide
MDH	Mater Dei Hospital
MESDC	Ministry for the Environment, Sustainable Development, and Climate Change
MFH	Ministry for Health
MRA	Malta Resources Authority
MSFD	Marine Strategy Framework Directive
NAP	National Action Plan for the Sustainable Use of Pesticides
NSO	National Statistics Office
OHSA	Occupational Health and Safety Authority
PAE	Pesticide application equipment
PPD	Plant Protection Directorate
PPE	Personal Protective Equipment
PPP	Plant Protection Product
SMI	Standards and Metrology Institute
SPISE	Standardised Procedure for the inspection of Sprayers in Europe
SUD	Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides
TRD	Technical Regulations Directorate
UAA	Utilised agricultural area
WCMP	Water Catchment Management Plan
WFD	Water Framework Directive
WSC	Water Services Corporation

LIST OF DEFINITIONS

Aerial spraying[1] means application of pesticides from an aircraft (plane or helicopter).

Advisor[1] means any person who has acquired adequate knowledge and advises on pest management and the safe use of pesticides, in the context of a professional capacity or commercial service, including private self-employed and public advisory services, commercial agents, food producers and retailers where applicable.

Agri-Environmental Measures refer to measures included in the Rural Development Programme[2] which are designed to provide an opportunity to reinforce the role of farmers as stewards of the rural landscape and support farmers in return for proving an environmental service to the community.

Coastal water[3] means surface water on the landward side of a line, every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where appropriate up to the outer limit of transitional waters.

Good plant protection practice[4] means a practice whereby the treatments with plant protection products applied to given plants or plant products, in conformity with the conditions of their authorised uses, are selected, dosed and timed to ensure acceptable efficacy with the minimum quantity necessary, taking due account of local conditions and of the possibilities for cultural and biological control.

Groundwater[3] means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

Inland water[3] means all standing or flowing water on the surface of the land, and all groundwater on the landward side of the baseline from which the breadth of territorial waters is measured.

Integrated pest management[1] means careful consideration of all available plant protection methods and subsequent integration of appropriate measures that discourage the development of populations of harmful organisms and keep the use of plant protection products and other forms of intervention to levels that are economically and ecologically justified and reduce or minimise risks to human health and the environment. 'Integrated pest management' emphasises the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms.

Pesticide application equipment[1] means any apparatus specifically intended for the application of pesticides, including accessories that are essential for the effective operation of such equipment, such as nozzles, manometers, filters, strainers and cleaning devices for tanks.

Pesticides Control Board as established under the Pesticides Control Act, Cap. 430 of the National Laws of Malta, consists of a board appointed by the Minister which shall be responsible for:

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[1] As defined in Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides

[2] Malta - Rural Development Programme (National) 2014 – 2020

[3] As defined in Directive 2000/60/EC EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy

[4] As defined in Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC

a) advising the Director on any matter relating to the registration, restriction, importation, manufacture, sale or use of pesticides including those employed in integrated control management
b) reporting to the Director on any matter relating to the regulating, enforcing and monitoring of all legislation relating to pesticides or on any matter regarding pesticides
c) advising on measures to be taken on any matter arising from the application of any regulations made under the Pesticides Control Act
d) reviewing and making proposals for revision of existing legislation relating to pesticides and
e) such other function in connection with pesticides as the Minister may prescribe.

Plant protection products[5] refers to products, in the form in which they are supplied to the user, consisting of or containing active substances, safeners or synergists, and intended for one of the following uses:

a) protecting plants or plant products against all harmful organisms or preventing the action of such organisms, unless the main purpose of these products is considered to be for reasons of hygiene rather than for the protection of plants or plant products
b) influencing the life processes of plants, such as substances influencing their growth, other than as a nutrient
c) preserving plant products, in so far as such substances or products are not subject to special Community provisions on preservatives
d) destroying undesired plants or parts of plants, except algae unless the products are applied on soil or water to protect plants
e) checking or preventing undesired growth of plants, except algae unless the products are applied on soil or water to protect plants.

Professional user[6] means any person who uses pesticides in the course of their professional activities, including operators, technicians, employers and self-employed people, both in the farming and other sectors.

Ready-to-Use Products means products which may be used by non-professional users and whose formulation consists of a diluted form and no mixing and dilution of formulation will be necessary prior to its use.

Risk indicator[6] means the result of a method of calculation that is used to evaluate risks of pesticides on human health and/or the environment.

Rural Development Programme is a programme composed of a set of measures which are intended to implement a strategy to meet the Union priorities for rural development set out in Regulation (EU) No 1305/2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD).

[5] As defined in Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC
[6] As defined in Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides

Surface water[7] means inland waters, except groundwater; transitional waters and coastal waters, except in respect of chemical status for which it shall also include territorial waters.

Vulnerable Groups[8] means persons needing specific consideration when assessing the acute and chronic health effects of plant protection products. These include pregnant and nursing women, the unborn, infants and children, the elderly and workers and residents subject to high pesticide exposure over the long term.

[7] As defined in Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides

[8] As defined in Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC

1. INTRODUCTION

1.1. Background information on Malta[9]

The Maltese Archipelago consists of three inhabited islands, Malta, Gozo, and Comino, as well as several smaller uninhabited islands, having a total surface area of 316 km^2. According to news release published by the National Statistics Office (NSO) on the 11th July, 2018, the estimated total population of Malta and Gozo at the end of 2017 stood at 475,701.

In 2016, a total of 13,199 ha of agricultural land was recognised, of which 90.4% was declared as utilised agricultural area (UAA), whilst unutilised agricultural area and other areas (including garigue land) made up the remaining 9.6%.

Arable land accounted for 78.8% of the total UAA, whereby the cultivation of forage crops, covering 5,647 ha or 60.1%, was predominant. Permanent crops and kitchen gardens made up the remaining 11.0% and 10.2%, respectively. Permanent crops amounted to 1,311 ha, of which 430 ha[10] is dedicated to vineyards. Fruit and berry plantations, mainly peaches, had a share of 28.3% of total permanent crops, while citrus, olive and nurseries accounted for 11.1%, 12.4% and 1.0% respectively. 1,217 ha were utilised for kitchen gardens, reflecting the high number of small agricultural holdings.

A significant feature of Maltese agriculture is that the majority (46.5%) of agricultural holdings in Malta and Gozo are of the size class >0 - <0.5 ha. Moreover, 218 holdings, or 1.8%, do not have any land area since such agricultural holdings are only engaged in the rearing of livestock, namely pigs, cattle, poultry, sheep and goats. This suggests that the remaining 98.2% of the total agricultural holdings are engaged in agricultural activities related to 'crop product'.

1.2. Plant Protection Products Usage in Malta[11]

1.2.1. Areas Treated

In 2014, according to the Pesticides Use Survey, carried out by the National Statistics Office (NSO), the area treated with plant protection products amounted to 4,071.8 ha or 44.4% of the area surveyed.

Cultivations	Percentage
Forage	22.7%
Fresh Vegetables Under glass	94.8%
Fresh Vegetables In the Open	90.9%
Potatoes	96.2%
Vines	86.1%
Stone Fruit	78.0%
Citrus	45.1%

Table 1. The basic area (ha) treated with PPPs, expressed as a percentage of the total cultivated area (ha), per each of the type of cultivation.

[9] National Statistics Office (NSO) – Environment, Transport and Agriculture Statistics Unit – Farm, Structure Survey 2016
[10] The Vine Directorate, MESDC, 2018.
[11] National Statistics Office (NSO) – Environment, Transport and Agriculture Statistics Unit – Pesticides Use Survey 2014

Table 1, represents the basic area (ha) treated with PPPs, expressed as a percentage of the total cultivated area (ha), per each of the type of cultivation.

Fungicides dominated in the use of plant protection products, in weight applied and area treated. 70.7% of the area was treated with at least one fungicide. Similarly, fungicide applications amounted to 98.0% in terms of weight. The area of herbicides and insecticides amounted to 9.4% and 18.0% respectively.

1.2.2. Application Methods

The knapsack (77.3%) was the chosen application method to treat most of the formulated area. The following bar chart as identified in Figure 1, illustrates the pesticide application methods used in Malta in 2014.

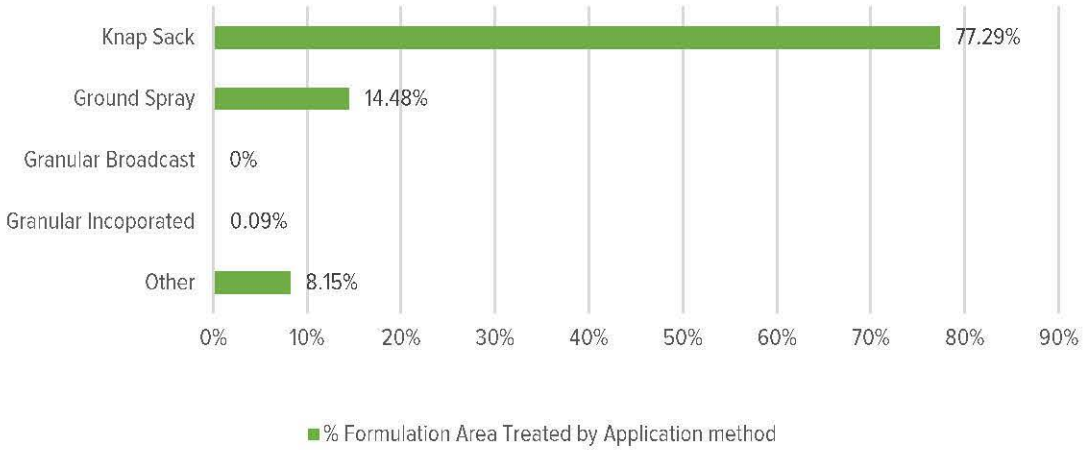


Figure 1. Pesticide Application Methods % usage for the treatment of formulated areas.

1.2.3. Active Substances

In 2014, on average 6.3 kg of active substance per hectare was applied. Table 2, shows the average quantity of active substance applied per formulation area treated (in kg/ha) for the different types of plant protection products.

Chemical Group	Average quantity of active substance applied per formulation area treated (in kg/ha)
Acaricides	0.1
Fungicides	8.7
Herbicides	0.8
Insecticides	0.1

Table 2. The average quantity of active substance applied per formulation area treated (in kg/ha) for the different types of plant protection products.

In total, 85 different active substances were recorded in the pesticide survey. Their combined use amounted to just over 120 tonnes (124,888.8kg), with 93.2% in terms of weight of active substance pertaining solely to the fungicide, Sulphur.

Following sulphur, the two other pesticides mostly applied on all crops in terms of weight were mancozeb (3.8%) and MCPA (0.9%), which are classified as a fungicide and herbicide respectively.

Mancozeb, was the active substance applied which covered the largest area (5,899.2 ha), followed by the two other fungicides Sulphur (2,197.6 ha) and Cymoxanil (1,371.2 ha).

The insecticide mostly used in terms of weight, as well as in terms of treated area, was Chlorpyrifos.

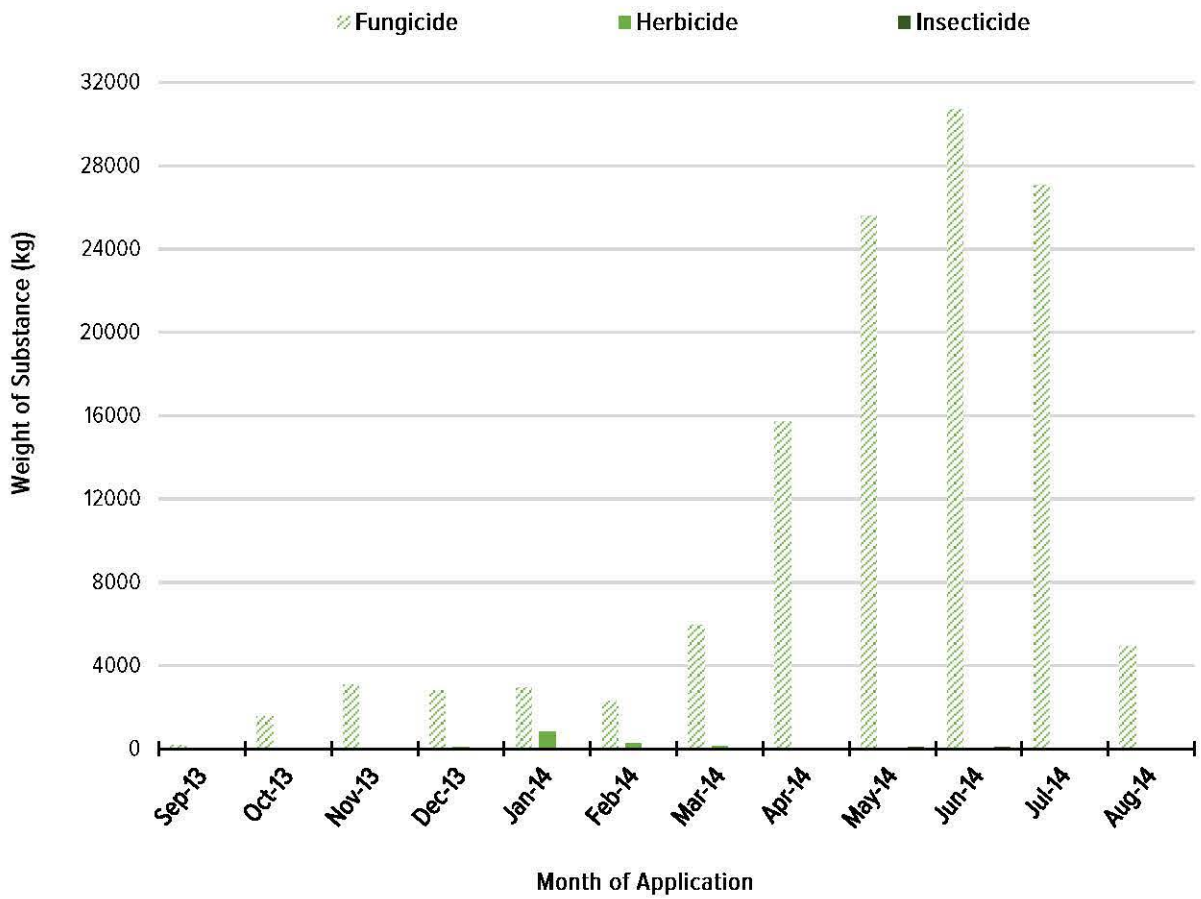


Figure 2. Weight of substance by chemical family (kg) used for treatment by month of application.

Pesticide usage in Malta follows a typical pattern under a Mediterranean climate. Herbicide applications are mainly used in the beginning of the rainy season, which starts in September, when the weed seeds begin to sprout.

Treatment with herbicides reached its peak in January whereas dry conditions in the April/September season retard weed growth. Fungicide use occurred throughout the whole season, with the main period of application occurring April to July, reaching a peak in June. These patterns are depicted in Figure 2.

Insecticide use was also used throughout the whole of the agricultural year, although its usage reached a maximum in the June period. This pattern is depicted in Figure 3.

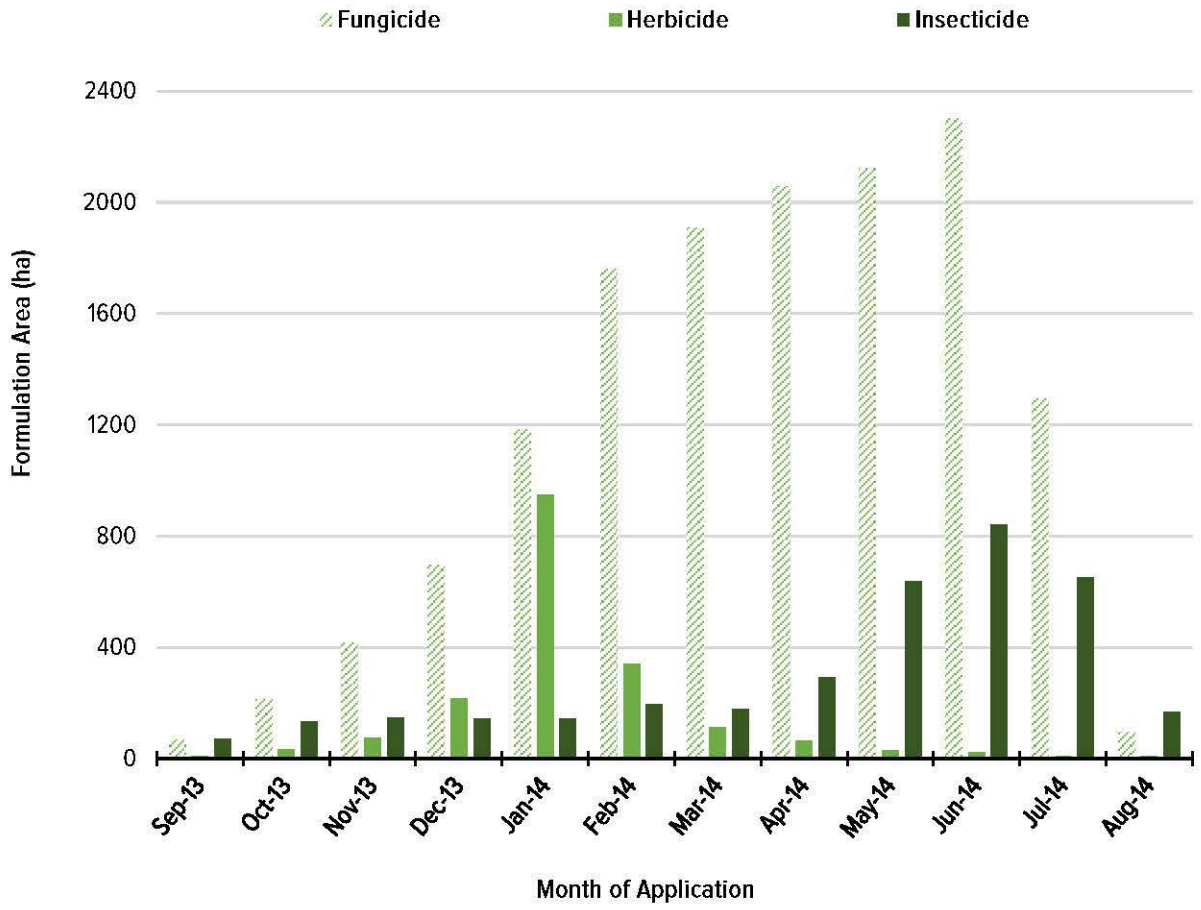


Figure 3. Formulation Area (ha) treated with Pesticides by month of application.

2. CURRENT LEGISLATION RELATED TO PLANT PROTECTION PRODUCTS

2.1. National Legislation

In Malta, Plant Protection Products (PPPs) are mainly regulated through:

a. **The Pesticides Control Act, Cap. 430 of the National Laws of Malta**

This Act is the principal legislation under which emerge subsidiary national legislations that regulate pesticides. In the same Act the Malta Competition and Consumer Affairs Authority (MCCAA) is officially recognised in Malta as the competent authority for the authorisation and regulation of pesticides.

In addition, reference to penalties for any contraventions or failure of complying with any of the provisions of this Act or of any related regulation are stipulated.

b. **Subsidiary Legislation 430.02 as per Legal Notice 14 of 2009 entitled Maximum Residue Levels of Pesticides in Produce of Plant and Animal Origin (Implementation of EC Regulation) Regulations, 2009**

This Legal Notice implements the provisions of Regulation (EC) No 396/2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC into the local legislation.

This regulation provides a harmonised system of setting maximum residue levels (MRLs) and sets a common EU assessment scheme for all agricultural products for food or animal feed.

c. **Subsidiary Legislation 430.07 as per Legal Notice 284 of 2011 entitled Plant Protection Products (Implementation) Regulations, 2011**

This Legal Notice implements the provisions of Regulation (EC) 1107/2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC into the local legislation.

This regulation supports a harmonised approach towards the authorisation of plant protection products within the European Community.

d. **Subsidiary Legislation 430.08 as per Legal Notice 489 of 2011 entitled Sustainable Use of Pesticides Regulations, 2011**

This Legal Notice transposes Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides (SUD) into the local legislation.

2.2. Other Legislation

Regulation (EC) No. 1185/2009 concerning statistics on pesticides.

This regulation obliges Member States to collect statistics on pesticide use. The NSO is the competent authority responsible for the reporting of statistical data of pesticides in Malta.

Directive 2009/127/EC with regards to machinery for pesticide application.

The primary focus of the directive is to harmonise manufacturing standards for machinery for pesticide application such that pesticide application equipment is designed and constructed taking into account

risk assessments so that the machinery can be operated, adjusted and maintained without unintended exposure of the environment to pesticides.

This Directive has been implemented in Legal Notice 131 of 2011 entitled Machinery (Amendment) Regulations, 2011.

Directive 2009/147/EC on the conservation of wild birds and **Directive 92/43/EEC** on the conservation of natural habitats and of wild fauna and flora.

The SUD allows for the placement of restrictions on the use of pesticides in areas identified for the purposes of establishing the necessary conservation measures in accordance with the provisions of Directives 79/409/EEC, currently repealed by Directive 2009/147/EC and 92/43/EEC.

These Directives have been implemented in Subsidiary Legislation 549.42 as per Legal Notice 79 of 2006 entitled Conservation of Wild Birds Regulations, 2006 and Subsidiary Legislation 549.44 as per Legal Notice 311 of 2006 entitled Flora, Fauna and Natural Habitats Protection Regulations, 2006.

Directive 2008/56/EC establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive) (MFSD).

This Directive is specifically aimed at the protection of the marine environment and natural resources and presents a framework for EU Member States to manage human activities in the marine environment in a sustainable manner. It promotes integration of environmental considerations pertaining to the marine environment into relevant policy areas. Within this context the MFSD is considered as the environmental pillar of the integrated maritime policy.

This Directive has been implemented in Subsidiary Legislation 549.62 as per Legal Notice 73 of 2011, as amended by LN 365 of 2018, entitled Marine Policy Framework Regulations, 2011.

Directive 2000/60/EC establishing a framework for Community action in the field of water policy.

This Directive, better known as the Water Framework Directive (WFD), presents a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater with the purpose of preventing further deterioration, as well as protecting and enhancing the status of aquatic ecosystems. The WFD further promotes sustainable water use based on a long-term protection of available water resources and aims at enhanced protection and improvement of the aquatic environment, through specific measures for the progressive reduction and the cessation or phasing out of discharges, emissions and losses of priority hazardous substances.

This Directive has been implemented in Subsidiary Legislation 549.100 as per Legal Notice 345 of 2015, entitled Water Policy Framework Regulations, 2015.

3. REVISION OF THE NATIONAL ACTION PLAN ON SUSTAINABLE USE OF PESTICIDES

The National Action Plan (NAP) will be reviewed at least every five years and any substantial changes to National Action Plan will be reported to the Commission.

When revising the NAP, the health, social, economic and environmental impacts of the outlined measures are taken into account. Specific local conditions and all relevant stakeholder groups are also duly taken into account in order to outline measures which serve as an efficient tool to support the sustainable use of pesticides in Malta.

The revised NAP is thus developed following the comprehensive consultation with stakeholders, including the public. The approach used for the revision is a combination of legislative measures and other initiatives with the main aim to maintain an efficient tool to support the sustainable use of pesticides in Malta in line with the applicable legislation.

4. TRAINING, INFORMATION AND AWARENESS-RAISING

4.1. Distributors

It is mandatory that distributors of PPPs undergo training procedures which are certified by the MCCAA. Training of distributors is designed by the Technical Regulations Division (TRD) within the MCCAA and ensures that distributors are appropriately trained with respect to the obligations pertaining to the sustainable use of PPPs, and also to cope with situations that may emerge during the distribution phase, as outlined below:

- Legislations related to Plant Protection Products
- Types of Plant Protection Products
- Responsible Use, Storage, Spread, Record-keeping and Disposal of Plant Protection Products and their packaging.
- Danger, Risks, Poisoning and First Aid related to Plant Protection Products
- Transportation of Plant Protection Products
- Disposal of Plant Protection Products
- Pesticides Application Equipment and their inspection
- Risks related to handheld application equipment or knapsack sprayers and risk mitigation measures
- Personal Protective Equipment and Health and Safety issues
- Integrated Pest Management
- Health and Environmental Risks related to use of Plant Protection Products
- Environmental Fate of Pesticides and protected areas under the Water Framework Directive (Directive 2000/60/EC) and the Habitats Directive (Directive 92/43/EEC)
- Classification and Labelling

The training procedures shall cover both the initial training and the additional training to reflect updated information where applicable. Training of distributors is undertaken by competent bodies recognised by the MCCAA who are made public through the MCCAA website.

After following the above training procedures, distributors are granted certification which shall be displayed at the point of sale. Certification is granted for a period of 5 years, upon the expiry of which, additional training is required to be taken for re-certification.

The sale of pesticides in Malta shall be restricted to MCCAA certified distributors. Distributors shall have sufficient certified personnel available at the time of sale to provide adequate information to customers as regards pesticides use, health and environmental risks and safety instructions to manage the risks for the product in question.

Distributors of PPPs classified as Acute Toxicity Categories 1, 2 and 3 in accordance to the Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of substances and mixtures (CLP) as implemented in Malta through the Classification, Labelling and Packaging of Substances and Mixtures

(CLP) (Implementation) Regulations, 2009 (Legal Notice 214 of 2009) shall, where feasible, attend a specialised course on PPPs which are classified as such.

Micro-distributors, who are responsible for selling only products for non-professional use may be exempted from the above training requirements and obligations, provided they do not offer for sale pesticide formulations classified as toxic, very toxic, carcinogenic, mutagenic or toxic for reproduction pursuant to the Dangerous Substances Regulations (Subsidiary Legislation 427.14; Legal Notice 306 of 2008). In the event of such exemption, following authorisation by the MCCAA, such micro-distributors shall provide general information in writing regarding the risks of pesticides for human health and the environment. The method utilised for the provision of such information shall be approved by the MCCAA.

SPECIFIC OBJECTIVES:

1. Ensure that distributors and personnel involved in the sale of PPPs are adequately trained to minimise the health and environmental risks related to the use of PPPs.
2. Ensure that a sufficient number of adequately trained staff is available at the point of sale to provide safety instructions to manage the risks for the product in question.

SPECIFIC MEASURES:

1. Maintain a list of suitably trained distributors acknowledged by the MCCAA in view of supporting both initial and additional training requirements which is made available to the public.
2. Maintain a programme of periodic inspections on distributors of PPPs to support the obligations towards the sustainable use of pesticides.
3. Maintain updated content of the training programmes for distributors.
4. Assess the requirements to set up a training system for PPPs classified as Acute Toxicity Categories 1, 2 and 3.
5. Maintain a harmonised system for the provision of general information in writing regarding the risks of pesticides for human health and the environment for micro-distributors in Malta.

INDICATORS OF PROGRESS:

1. The number of trained and certified distributors, including employed personnel which are available at point of sale.
2. Compliance in the area by distributors as obtained during inspections.
3. Updated training records for authorised distributors.
4. The number of authorised PPPs classified as Acute Toxicity Categories 1, 2 and 3 in Malta covering the review period.
5. The quality of information material generated regarding the risks of pesticides for human health and the environment for micro-distributors in Malta where applicable.

4.2. Professional Users

It is mandatory that professional users of PPPs undergo training procedures which are certified by the MCCAA. Training of professional users is designed by the TRD within the MCCAA and ensures that professional users are appropriately trained with respect to the obligations pertaining to the sustainable use of PPPs, and also to minimise the risks and impacts associated with the use of pesticides on human health and the environment. The training shall cover:

- Legislation related to PPPs
- The Types of Plant Protection Products
- Pesticides Application Equipment
- Risks and associated risk mitigation measures related to handheld Pesticides Application Equipment or knapsack sprayers
- Health and Safety issues including risks to health for vulnerable persons
- Integrated Pest Management
- Health and Environmental Risks related to use of Plant Protection Products
- Environmental Fate of Pesticides and protected areas under the Water Framework Directive (Directive 2000/60/EC) and the Habitats Directive (Directive 92/43/EEC)
- Responsible Use, Record-keeping and Disposal of Plant Protection Products and their packaging
- Classification and Labelling of Plant Protection Products

The training procedures shall cover both the initial training and the additional training to reflect updated information where applicable. Training of professional users is undertaken by competent bodies recognised by the MCCAA as made public through the MCCAA website.

Following the above training procedures, professional users are granted certification for a period of 5 years, upon the expiry of which, additional training is required for re-certification.

It is mandatory that only authorised professional users make use of PPPs during the course of their professional activities, with the exemption of those products that are sold for non-professional use. Certification is a requirement for the purchase of PPPs for professional use and shall be presented at the point of sale in order to restrict sales of pesticides to authorised professional users.

Professional users of plant protection products classified as Acute Toxicity Categories 1, 2 and 3 according to Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of substances and mixtures (CLP) as implemented in Malta through the Classification, Labelling and Packaging of Substances and Mixtures (CLP) (Implementation) Regulations, 2009 (Legal Notice 214 of 2009) shall, where feasible, attend a specialised course on PPPs which are classified as such.

SPECIFIC OBJECTIVE:

1. Ensure that professional users of PPPs are adequately trained to minimise the health and environmental risks related to the use of PPPs.

SPECIFIC MEASURES:

1. Maintain a list of suitably trained professional users authorised by the MCCAA in view of supporting both initial and additional training requirements.
2. Maintain a programme of periodic inspections on professional users of PPPs to support the obligations towards the sustainable use of pesticides.
3. Maintain updated content of the training programmes for professional users.
4. Assess the requirements to set up a training system for PPPs classified as Acute Toxicity Categories 1, 2 and 3.

INDICATORS OF PROGRESS:

1. The number of trained and certified professional users.
2. Compliance in the area by professional users as obtained during inspections.
3. Updated training records for authorised professional users.
4. The number of authorised PPPs classified as Acute Toxicity Categories 1, 2 and 3 in Malta covering the review period.

4.3. Trainers

Bodies designated for the training of distributors and professional users by the MCCAA are publicly available to support the ongoing availability of trainers for initial and additional training of distributors and professional users of PPPs.

The bodies were designated through 'train the trainers' courses, whereby the applicants were trained and informed on the topics covering the training of distributors and professional users of PPPs, after which they were subject to an examination. Successful attendees were officially recognised by the MCCAA as designated bodies (trainers) for the training and subsequent recognition of professional users and distributors of PPPs.

Organisation of courses for the certification or re-certification of professional users and distributors is handled directly by the MCCAAA designated bodies. These courses are ongoing throughout the year. The course content is managed and maintained by the TRD within the MCCAA.

The list of officially recognised trainers is publicly available on the MCCAA's website, whereby such trainers may be personally contacted by professional users and distributors using the contact details available on the website.

SPECIFIC OBJECTIVE:

1. Maintain an ongoing training programme to ensure that distributors and professional users of PPPs are adequately trained to minimise the occupational and public health and environmental risks related to the use of PPPs.

SPECIFIC MEASURES:

1. Maintain a list of bodies designated by the MCCAA for the training of distributors and professional users in view of supporting both initial and additional training requirements.
2. Ensure the bodies designated by the MCCAA are informed on any updates to the content for the training programmes for distributors and professional users.

INDICATORS OF PROGRESS:

1. The number of trained and certified professional users and distributors.

4.4. Advisors

Advisors holding a tertiary level of education in a subject relevant to agronomy or have proven experience of a minimum of ten years in a relevant area shall be deemed as fulfilling the training requirements in line with the Regulations for Sustainable Use of Pesticides (Legal Notice 489 of 2011) and shall thus be eligible to provide advisory services in line with the same regulations.

Advisors acknowledged by the MCCAA shall be made available to the public on the MCCAA website.

SPECIFIC OBJECTIVE:

1. Ensure the availability of MCCAA-acknowledged advisors for professional users and other applicable persons in the farming sector and other relevant sectors, to support the reduction of risks and impacts of pesticide use on occupational and public health and the environment, and to encourage the development and introduction of integrated pest management and/or alternative approaches or techniques to reduce the dependence on the use of pesticides in line with the Regulations for Sustainable Use of Pesticides (Legal Notice 489 of 2011).

SPECIFIC MEASURES:

1. Establish and maintain a list of MCCAA-acknowledged advisors which is publicly available.

INDICATORS OF PROGRESS:

1. The number of MCCAA-acknowledged advisors.

4.5. Non-Professional Users and the General Public

It is necessary that the general public, with special reference to vulnerable groups, should be kept informed at all times with accurate and balanced information relating to the sustainable use of pesticides in Malta, in particular with regard to the risks and the potential acute and chronic effects on human health, non-target organisms and the environment arising from their use. The regard to risks is attributed to both potential acute high pesticide exposure and/or potential low dose chronic exposure. The general public is also required to be aware of non-chemical alternatives to pesticides.

Pesticides available for sale to non-professional users is limited to ready-to-use formulations which are not classified as toxic carcinogenic, mutagenic or toxic for reproduction pursuant to the Classification, Labelling and Packaging of Substances and Mixtures (CLP) (Implementation) Regulations, 2009 of Legal Notice 214 of 2009. It is also necessary to aim increased awareness towards the reduction of risks resultant from misuse and incorrect disposal of such products.

MCCAA shall maintain liaison with local entities, including Local Councils and schools, to promote awareness for the general public, as well as with local research institutes, on the possibility of carrying out research on the risks and the potential effects for human health, non-target organisms and the environment arising from the use of PPPs.

Further public awareness is intended to increase through MCCAA's participation in campaigns and media programmes, and also targets the better understanding of signage which is required to be placed in areas which were recently subject to the application of PPPs.

The inclusion of such topics in activities organised to target children is also a measure to engage the vulnerable population.

SPECIFIC OBJECTIVE:

1. Increase awareness to the public, with special reference to vulnerable groups, through the dissemination of:
    i. accurate and balanced information relating to the risks and the potential effects for human health, non-target organisms and the environment
    ii. information on the non-chemical alternatives to pesticides
    iii. information on good practice, safe handling and disposal of ready-to-use pesticide products
    iv. information on the better understanding of signage placed in areas which were recently subject to the application of PPPs.

SPECIFIC MEASURES:

1. Ensure the general public and non-professional users have sufficient access to accurate and balanced information relating to the risks and the potential effects for human health, non-target organisms and the environment, non-chemical alternatives to pesticides and good practice and safe handling of ready-to-use pesticide products.
2. Maintain ongoing participation in campaigns and media programmes relating to the sustainable use of pesticides.
3. Maintain liaison with local entities and research institutes.
4. Ensure the general public and non-professional users have sufficient access to information relating to signage placement in areas subject to the application of PPPs.

INDICATORS OF PROGRESS:

1. The access to and the quality of up-to-date information material and activities targeting the general audience and non-professional users with particular emphasis to vulnerable groups.

4.6. Guidance Material Development

4.6.1. Guidance material for non-professional users and the general public

Non-professional users and the general public who make use of ready-to-use PPPs are required to be informed on the importance of good practice, safe handling and disposal during the use of PPPs.

Guidance material is publicly available on the MCCAA website to support the sustainable use of pesticides requirements for non-professional users and the general public. The guidance material targets measures to reduce the risks for human health and the environment arising from pesticide use, in particular on hazards, exposure, proper storage, handling, application and safe disposal in accordance with current legislations in force. The guidance material also targets knowledge on good practice and safe handling in particular to vulnerable groups and low-risk alternatives.

SPECIFIC OBJECTIVE:

1. Maintain updated guidance material for non-professional users and the general public targeting knowledge on good practice, safe handling and disposal of ready-to-use PPPs and low-risk alternatives to PPPs.

SPECIFIC MEASURES:

1. Ensure sufficient access to the general public and non-professional users to up-to-date guidance material on good practice and safe handling of ready-to-use PPPs and low-risk alternatives to PPPs.

INDICATORS OF PROGRESS:

1. The access to and the quality of up-to-date guidance material targeting the general audience and non-professional users with particular emphasis to vulnerable groups.

4.6.2. Guidance material for professional users

The training, information and awareness-raising area objective to professional users also targets the development of guidance material to encourage professional users to reach a harmonised approach towards the sustainable use of pesticides.

Currently the MCCAA has published guidance material for Integrated Pest Management for Malta as an integral part of the National Action Plan for Sustainable Use of Pesticides in Malta. The guidance material is publicly available on the MCCAA website.

In view of the necessity to further support the harmonised approach towards the sustainable use of pesticides in Malta, the MCCAA in collaboration and in consultation with applicable Government entities and organisations representing professional users shall reassess the requirements for guidance material which support the evolving issues primarily identified in the current NAP such as:

- Crop or sector specific guidance material for IPM
- Guidance material for major crops in Malta which include vines, olives, potatoes and tomatoes

- Guidance material for annual crops, field vegetables, greenhouse crops, and fruit trees (pome fruit, stone fruit and citrus)
- Guidance material specific to local pests
- The inclusion of low pesticide-input or alternative methods of plant protection
- Inclusion of specific methods to be used in greenhouses in guidance material specific to greenhouse crops
- Reference to the protection of bees in applicable guidance material
- The safe use of plant protection products in areas and their immediate vicinity used by the general public or by vulnerable groups such as public parks and gardens, sports and recreation grounds, school grounds and children's playgrounds and in the close vicinity of healthcare facilities
- The safe use of PPPs with specific references to the protection of the environment, including soil, water, air and biodiversity
- Guidance material to support the selection of PPPs in terms of suitability and low toxicity where applicable, based on the ranking of Plant Protection Products vis-à-vis toxicity through information available on the label or through information available on Safety Data Sheets.

Liaisons with entities providing advisory services to farmers shall support the prioritisation of guidance material development or revision and the identification of additional concerns requiring the development of guidance material.

SPECIFIC OBJECTIVE:

1. Develop and maintain updated guidance material for professional users to support a harmonised approach towards the sustainable use of PPPs.

SPECIFIC MEASURES:

1. Collaboration and consultation with applicable Government entities and organisations representing professional users to identify and assess evolving issues for the development of supporting guidance material.

INDICATORS OF PROGRESS:

1. The access to and the quality of up-to-date guidance material targeting the identified issues.

5. CONTROLS ON PESTICIDE APPLICATION EQUIPMENT

5.1. Testing and Certification of Pesticide Application Equipment (PAE)

The control on pesticide application equipment in use, provided for by Article 8 of the SUD, is regulated by Regulation 7 of Legal Notice 489 of 2011. Pesticide application equipment in use is subject to inspections at regular intervals to ensure that the equipment satisfies the required health and safety and environmental requirements in order to achieve a high level of protection for human health and the environment and thus minimise the risks related to the use of PPPs.

From the survey carried out by the Technical Regulations Division (TRD) within MCCAA in 2016, which entailed the participation of 480 professional users, it is estimated that around 80% of the pesticide application equipment in use are powered knapsack sprayers, whilst the remaining 20% is inclusive of boom sprayers and orchard sprayers.

The following pesticide application equipment is subject to inspection at regular intervals:

1. Powered knapsack sprayers with a tank capacity up to 7 litres and an engine power rating up to 2Hp
2. Other powered knapsack sprayers
3. Other PAE such as boom sprayers and orchard sprayers.

Manually operated hand-held pesticide application equipment and manually operated knapsack sprayers with a tank capacity up to a maximum of 20 litres are exempted from the above-mentioned inspections.

The TRD within the MCCAA, is the entity responsible to oversee that PAE conforms to the relevant provisions outlined in Regulation 7 of Legal Notice 489 of 2011. Bodies responsible for the implementation of the inspection systems are designated by the MCCAA. The Standards and Metrology Institute (SMI) within the MCCAA is currently responsible for implementing the inspection system and the certificate system to allow the verification of inspections. The TRD shall also be responsible to recognise the certificates granted in other Member States where the time period since the last inspection carried out in the other Member State is equal to or shorter than the time period of the inspection interval applicable in Malta.

In addition to statutory inspections, professional users must also conduct regular calibrations and technical checks of the pesticide application equipment in accordance with the manufacturer's recommendation and with the appropriate training received as per Section 4.2 of this document.

SPECIFIC OBJECTIVE:

1. Promote controls on pesticide application equipment to minimise the risks related to the use of PPPs, whilst increasing the efficiency of PPP application.

SPECIFIC MEASURES:

1. Maintain a programme of periodic inspections on PAE in use to support the intervals referenced in Annex I.
2. Maintain a certificate system for all PAE inspected and certified.

3. Promote awareness amongst professional users with regards to the conduct of PAE inspections at regular intervals as a means to minimise the risk related to the use of PPPs and to increase the efficiency of PPP application.
4. Ensure that PAEs in use are inspected and certified by MCCAA-acknowledged equipment inspectors/technicians.
5. Ensure that the PAE inspections and certification issued reflect the required standards.

INDICATORS OF PROGRESS:

1. The number of PAEs inspected and certified as complying with the specified standards.
2. The number of PAEs that failed the inspection vis-à-vis the total number of PAEs inspected.
3. The number of activities and/or awareness sessions held for professional users and the information material produced to support the activities and sessions held.
4. Compliance in the area by professional users as obtained during inspections.
5. Compliance to standards for PAE testing.

5.2. Establishment and Management of a list of Qualified Inspectors

The initial training requirements for the personnel carrying out the PAE inspection and certification is designed to ensure that the personnel responsible for the conduct of the PAE inspection procedure and the issuing of the certification following the procedure, have the necessary expertise to carry out the tasks on the required range of PAEs applicable to Malta.

Specific training has been developed by TRD and SMI within MCCAA to support the certification system. Training to support the inspection procedures is based on The Better Training for Safer Food Initiative of the European Union (BTSF) training course *"Organisation and Implementation of Training Activities on Inspection and Calibration of Pesticide Apparition Equipment in Professional Use"* and on Standardised Procedure for the inspection of Sprayers in Europe (SPISE) workshop *"VII SPISE: 7th European Workshop on Standardized Procedure for the Inspection of Sprayers in Europe"* supporting the provisions on inspection of plant protection equipment stated by Article 8 of the SUD and on the applicable ISO standards for each PAE type.

SPECIFIC OBJECTIVES:

1. Ensure that the personnel performing the inspections have the necessary expertise and are adequately trained.
2. Ensure that the quality of the inspections reflects the required standards.

SPECIFIC MEASURES:

1. Maintain training records for personnel involved in the inspection and certification procedures.
2. Maintain a list of suitably trained personnel for the inspection and certification procedures.

INDICATORS OF PROGRESS:

1. The quality of the inspection and certification procedures observed during compliance procedures.

6. CONTROLS ON HANDLING, STORAGE AND DISPOSAL OF PLANT PROTECTION PRODUCTS

It is mandatory that the necessary measures are adopted to ensure that operations performed by professional users, and where applicable by distributors, do not endanger human health or the environment.

Operations where such measures shall be adopted include:

a. storage, handling, dilution and mixing of pesticides before application
b. handling of packaging and remnants of pesticides
c. disposal of tank mixtures remaining after application
d. cleaning of the equipment used after application
e. recovery or disposal of pesticide remnants and their packaging in accordance to with the Community Legislation on waste.

Additional measures regarding the pesticides authorised for non-professional use are mandatory to further avoid dangerous handling operations. Pesticides sold to non-professional users will be restricted to:

a. Ready-to-use formulations
b. Low toxicity formulations (not classified as toxic carcinogenic, mutagenic or toxic for reproduction pursuant to the Classification, Labelling and Packaging of Substances and Mixtures (CLP) (Implementation) Regulations, 2009 of Legal Notice 214 of 2009)

SPECIFIC MEASURES:

1. To ensure that operations related to storage, handling, dilution and mixing of pesticides before application and operations related to handling of packaging and remnants of pesticides, disposal of any remaining tank mixtures and pesticide remnants and cleaning of the equipment after application as identified above, are performed without due danger to human health or the environment.
2. To ensure that non-professional users are restricted to purchase only ready-to-use formulations of low toxicity.

INDICATORS OF PROGRESS:

1. The access to and the quality of material generated to support the mandatory measures for operations related to storage, handling, dilution and mixing of pesticides before application and operations related to handling of packaging and remnants of pesticides, disposal of any remaining tank mixtures and pesticide remnants and cleaning of the equipment after application.
2. The quality of training material available both for initial training and additional training to professional users and distributors.
3. Compliance in the area as obtained during inspections.

6.1. Occupational and Public Health and Safety considerations during the Handling of Plant Protection Products

6.1.1. Risk Assessment

PPPs may pose a danger to human health and the environment, which can be expressed in terms of the 'hazard' and the 'risk' associated with the substances within the product. A substance is described as hazardous if it could cause harm to humans, plants and other organisms not being treated by the product, or the environment. The risk from a substance is the chance of it causing harm, depending on the way in which it is, or will be, used.

When necessary, prior to the handling and use of PPP, a risk assessment will be considered suitable and sufficient if a well-thought-out approach is used to identify risks by:

a. considering the dangers posed by the PPP intended to be used
b. deciding who could be harmed and how
c. identifying what action needs to be taken to prevent or control exposure
d. recording the results of the assessment
e. revising the assessment when necessary.

The danger a product poses depends on the nature and concentration of the product's active ingredients, the other ingredients (co-formulants), and its formulation type (liquid, granules, powder, gas or other).

Most information on the associated dangers to be evaluated prior to the use of the PPP are described on the product's label, or in other official documents as listed in **Annex II**. **Annex II** also lists the considerations to be given to during the assessment of the risks and dangers associated with use of PPPs as a precautionary measure toward the handling and use of PPPs.

6.1.2. Control Measures

Following the risk assessment, appropriate control measures for the application of the PPP should be recognised. The measures include:

1. Only suitably and sufficiently trained professional users may make use of PPPs using appropriate Personal Protection Equipment (PPE).
2. Management of the risks associated with the hazards.
3. Understanding the information on the product label and on any relevant data sheets.
4. The availability of suitable equipment to handle, mix, load and apply the product safely.
5. The availability of systems or equipment (including PPE) which will prevent or, where this is not reasonably practical, adequately control exposure.
6. Taking effective action in the event of equipment failure or break down.
7. Awareness on the negative health effects which could be linked to pesticide exposure and any possible related signs or symptoms.

6.1.2.1. Prevention of Plant Protection Products Exposure

It is mandatory that prevention of exposure is considered prior to the application of plant protection products.

Measures to prevent exposure include:

1. Use of alternative methods of pest control.
2. Use of pesticides which are classified as less dangerous in comparison to alternative pesticide for the same type, or using a less dangerous form of the same pesticide, such as the use of a product supplied in water-soluble bags to avoid handling and measuring the product.
3. Organisation of the procedures and work environment to ensure that bystanders or other members of the public are kept away from the areas that are being treated such as, the use of remote-controlled equipment for the application of pesticides in glasshouses.

6.1.2.2.Control of Plant Protection Products Exposure

It is mandatory that the following practices are adhered to during the preparation of PPP mixtures, throughout the use and handling of equipment necessary for pesticide application, when dealing with any spillages and lastly, whilst disposing of PPP waste, containers and packaging following pesticide application:

- Selection of the pesticides pack size to suit the area to be treated at one time or to suit the volume of spray solution being prepared.
- Use of products supplied in water-soluble bags.
- Use of closed-transfer systems i.e. equipment designed and manufactured to be used to move agricultural chemicals from their original container into a sprayer tank, and to accurately measure the volume of chemical being transferred, with compatible packaging when viable.
- Use of pressure-rinsing devices to avoid rinsing containers by hand.
- Reduction of the dose of the product whenever appropriate, but this should not be less than the minimum recommended/prescribed dose.
- Selection of the correct certified application equipment to minimise exposure. If the application method is likely to increase the risks to users, another method of applying the product or controlling the pest should be considered.
- New equipment should meet appropriate standards and should be designed to keep the risk of contamination during use or maintenance as low as possible.
- Nozzles should be kept in good condition and should not drip when the sprayer is switched off
- Valves and associated pressure-relief systems should be regularly checked and maintained.
- Where possible, the nozzles, other atomisers and powder dispensers, especially for hand-held equipment and equipment used near workers should be covered to reduce exposure.
- Pesticide application equipment should be kept clean, both inside and out, using appropriate cleaning methods. Air lines or dry brushing should not be used when cleaning dusty or dry deposits, as these methods can lead to aerial exposure of contaminants.

- All equipment should be well kept in accordance to the manufacturer's recommendation, regularly inspected and refrained from use in the event of a faulty part.
- Protective Personal Equipment must be worn and related practices must be followed as listed in **Annex III**.

SPECIFC OBJECTIVE:

1. To ensure that the applicable health and safety considerations are adhered to during the handling of PPPs by users.

SPECIFIC MEASURES:

1. Promote awareness amongst professional users with regards to considerations to risk assessment both to themselves and the general public and the correct interpretation of information on the PPP label prior to the application of the product to reduce the risks and impacts of the product on human health and the environment.
2. Promote practices to prevent exposure prior to the application of PPP to reduce the risks and impact of the product on human health and the environment.
3. Promote practices to control exposure during the preparation, handling and application of PPPs to reduce the risks and impacts of the product on human health and the environment.
4. Ensure the availability and easy accessibility of information on the health and safety considerations during the handling of PPPs by users.

INDICATORS OF PROGRESS:

1. The access to and the quality of material generated to support the mandatory measures and health and safety considerations during the handling of PPPs.
2. The quality of training material available both for initial training and additional training to professional users and distributors to support the mandatory measures and Occupational health and safety considerations during the handling of PPPs.
3. Compliance in the area as obtained during inspections.
4. The number of incidents reported involving PPP exposure.

6.2. Controls on Specific Handling of Plant Protection Products

It is mandatory that the correct handling techniques are implemented by professional users, and where applicable also distributors, to ensure that the risks and impacts of the handling of PPPs on human health and the environment are reduced. Such techniques are reflective of the principles in The Maltese Code of Good Agricultural Practice[12] and Good Plant Protection Practice[13].

[12] The Maltese code of Good Agricultural Practice
https://agriculture.gov.mt/en/agricultural_directorate/Documents/planningAuthorityEraConsultationServices/codeGoodAgriPractice.pdf
[13] Good Plant Protection Practice within The Maltese code of Good Agricultural Practice
https://agriculture.gov.mt/en/agricultural_directorate/Documents/planningAuthorityEraConsultationServices/codeGoodAgriPractice.pdf

Common activities during the handling of PPPs which may raise alert to the risks and impacts on human health and the environment are listed below. The correct handling techniques for these activities include mitigation measures to reduce the risks and impacts on human health and the environment such as:

Activity	Handling Techniques & Risk Mitigation Measures
Calculation of the Components for the Composition of the Spray Liquid	To avoid having any spray liquid leftover at the end of treatment, the spray liquid consumption is to be estimated from the rate of application and the size of the area to be treated. The number of tank fillings is calculated from the spray liquid consumption and the tank size. The last filling must be metered correctly or even so as to fall a bit short of the required amount.
The Mixing Procedure for the Composition of the Spray Liquid	The instructions on the product label with regard to product application rates, miscibility and necessary precautions and measure of operator protection must be followed during the mixing procedure. Leakage and contamination during the preparation of the spray liquid mix must be avoided by competent handling and appropriate wear of protective garments.
The Measurement of Liquids	Only suitable calibrated measuring containers and appropriate methods reserved for such purpose must be used.
The Filling of Liquids into Tanks or Introduction Bowls	Only suitable calibrated measuring containers and appropriate methods reserved for such purpose must be used when filling chemicals into the sprayer tank or into the chemical introduction bowl. Tanks must not be over-filled above the indicated level and the filling must not foam over. It must be ensured that no spray liquid can return when the tank is filled with water from a water pipe.
The Spraying Procedure	To ensure that even horizontal distribution is achieved the walking speed should be uniform and not more than 1 km/h. To ensure that even horizontal distribution in the case of tractor operated spraying, the driving speed should be 6 km/h. To minimise high losses through drift and volatilization, spraying of PPPs should be avoided during the following conditions: a. very hot temperatures b. relatively low humidity under 30% c. strong wind spells If alternate areas neighbouring the treatment area might be at risk, the current and/or prevalent wind direction must also be considered. In addition to following the label instructions, drift reducing measures, namely slowing down the speed, and applying coarser drops should be taken. The same measures should be taken when spraying in the vicinity of residential areas, gardens, amenity and sports grounds and tourist areas. If pesticide spray drifts to neighbouring areas, despite all precautions, the user of these areas must be immediately contacted and informed. Special precautions should be applied. These considerations are also required to be given in the event bee boxes are in the vicinity. In such cases, special precautions must also be taken, and the consideration given to the timing of application. When using pesticides which are toxic to bees, beekeepers in close proximity of the area being treated must be notified. Preference is given to pesticides which are non-toxic to bees.

Cleaning of the Pesticide Application Equipment after use and left over Liquid Spray Solution	The outside of the sprayer should be cleaned in an area in the same field that was treated. In addition, sprayers should be carefully cleaned and maintained on a regular basis. The possibility of allocating a small field patch which will remain untreated may be considered, to be used for the spraying of pesticide mix left over in the tank. The spray residue in the tank should be diluted by 1:10 with clear water and sprayed over the remaining untreated area. In the case of tractor operated sprayers, the water should also be used to clean the tank from inside. In addition to the tanks, empty pesticide containers must also be thoroughly rinsed, whereby the resulting wash water is added to the spray liquid. At no point should any pesticides or water contaminated with pesticides be allowed to reach any surface, ground or other waters. Nor should it be allowed to reach the public sewers.

Table 3. The handling techniques and risk mitigation measures applicable for each activity covered during the application of PPPs

SPECIFC OBJECTIVE:

1. To ensure that the applicable correct handling techniques and risk mitigation measures are adopted throughout the stages of the pesticide application procedure to reduce the risks and impacts on human health and the environment.

SPECIFIC MEASURES:

1. Promote awareness amongst professional users with regards to the correct handling techniques and risk mitigation measures to be adopted throughout the stages of the pesticide application procedure to reduce the risks and impacts on human health and the environment.
2. Ensure the availability and easy accessibility of information on the correct handling techniques and the risk mitigation measures to be adopted throughout the stages of the pesticide application procedure to all users.

INDICATORS OF PROGRESS:

1. The access to and the quality of material generated to support the handling techniques and risk mitigation measures to be adopted throughout the stages of the pesticide application procedure to reduce the risks and impacts on human health and the environment.
2. The quality of training material available both for initial training and additional training to professional users and distributors to support the handling techniques and risk mitigation measures to be adopted throughout the stages of the pesticide application procedure to reduce the risks and impacts on human health and the environment.
3. Compliance in the area as obtained during inspections.

6.3. Controls on Storage and Transport of Plant Protection Products

Storage of plant protection products requires particular precautions to preclude dangers to humans, animals and the environment. Storage of plant protection products by the user are often unavoidable and are subject to particular legal prescriptions.

The storage and transportation of PPPs should follow the principles outlined in the Maltese Code of Good Agricultural Practice[14] and Good Plant Protection Practice[15], as presented in Annex IV.

Storage areas for pesticides for professional use should be constructed in such a way as to prevent unwanted releases. Storage facilities should be under lock and key and should contain any spillage. Warning signs and emergency telephone number should be clearly visible on the storage facilities. Storage of PPPs should be limited to the necessary minimum time and amount, and the PPPs should be kept in their original containers together with the labels in the Maltese and English languages. Stored PPPs should still be authorised and should not be expired.

Common means of transport and traffic routes are used when PPPs are transported from distribution centres to stores and from there to the fields. Therefore, special precautions must be taken to prevent damage to containers and contamination of man, animal or the environment.

SPECIFC OBJECTIVE:

1. To ensure that the applicable correct storage and transport principles for PPPs as outlined in The Maltese Code of Good Agricultural Practice and Good Plant Protection Practice are adopted by professional users, non-professional users and distributors to reduce the risks and impacts on human health and the environment.

SPECIFIC MEASURES:

1. Promote awareness with regards to the correct storage and transport principles for PPPs to reduce the risks and impacts on human health and the environment.
2. Ensure the availability and easy accessibility of information on the correct storage and transport principles for PPPs to all users.

INDICATORS OF PROGRESS:

1. The access to and the quality of material generated to support the correct storage and transport principles for PPPs to reduce the risks and impacts on human health and the environment.
2. The quality of training material available both for initial training and additional training to professional users and distributors to support the correct storage and transport principles for PPPs to reduce the risks and impacts on human health and the environment.
3. Compliance in the area as obtained during inspections.

[14]The Maltese code of Good Agricultural Practice
https://agriculture.gov.mt/en/agricultural_directorate/Documents/planningAuthorityEraConsultationServices/codeGoodAgriPractice.pdf
[15] The Maltese code of Good Agricultural Practice
https://agriculture.gov.mt/en/agricultural_directorate/Documents/planningAuthorityEraConsultationServices/codeGoodAgriPractice.pdf

6.4. Controls on Disposal of Plant Protection Products

Disposal of plant protection products by the user are often unavoidable and are subject to legal prescriptions.

Empty pesticide containers and other related packaging must be disposed of in one of the Civic Amenity Sites or in one of the appropriate sites operated by WasteServ Malta Ltd.

PPPs, their packaging and any contaminated items such as disposable personal protection equipment should be disposed of in sites which are appropriate for dangerous chemicals. Sites include any one of the Civic Amenity Sites or in one of the appropriate sites operated by WasteServ Malta Ltd.

During the handling of PPPs and their remnants, at no point should any pesticides or water contaminated with pesticides be allowed to reach any surface, ground or other waters. Nor should it be allowed to reach the public sewers.

SPECIFC OBJECTIVE:

1. To ensure that the applicable correct storage and transport principles for PPPs as outlined in The Maltese Code of Good Agricultural Practice and Good Plant Protection Practice are adopted by professional users, non-professional users and distributors to reduce the risks and impacts on human health and the environment.

SPECIFIC MEASURES:

1. Promote awareness with regards to the correct disposal principles for PPPs, their packaging and contaminated PPE to reduce the risks and impacts on human health and the environment.
2. Ensure the availability and easy accessibility of information on the correct disposal principles for PPPs, their packaging and contaminated PPE to all users.

INDICATORS OF PROGRESS:

1. The access to and the quality of material generated to support the correct disposal principles for PPPs, their packaging and contaminated PPE to reduce the risks and impacts on human health and the environment.
2. The quality of training material available both for initial training and additional training to professional users and distributors to support the correct disposal principles for PPPs, their packaging and contaminated PPE to reduce the risks and impacts on human health and the environment.
3. Compliance in the area as obtained during inspections.

6.5. Record-keeping

Article 67 within Regulation (EC) No 1107/2009 concerning the placing of plant protection products on the market, as transposed into national legislation through Legal Notice 284 of 2011, as amended by Legal Notice 331 of 2018 (Subsidiary Legislation 430.07) outlines the provisions on record-keeping and

information about the use of PPPs. Producers, suppliers, distributors, importers and exporters of plant protection products are obliged to keep records, for at least 5 years, of:

1. any plant protection products produced
2. any plant protection products imported
3. any plant protection products exported
4. any plant protection products stored
5. any plant protection products placed on the market.

Professional users are obliged to keep records, for at least 3 years, of the plant protection products they use. These records shall include:

1. the name of the plant protection product
2. the date, the time and the dose of application
3. the area or parcel and the crop where the plant protection product was used.

The relevant information contained in these records shall be made available to the competent authority, the MCCAA, upon request. Third parties, such as the drinking water industry, retailers or residents may, upon justified requests made in writing to MCCAA, request access to this information. MCCAA will provide access to such information in accordance with applicable national or Community law.

Templates for record-keeping of purchased pesticides and for record-keeping of pesticide applications for professional users are available in the IPM guidance material maintained by the MCCAA and available on the MCCAA website.

SPECIFC OBJECTIVE:

1. Ensure record-keeping is maintained by all stakeholders.

SPECIFIC MEASURES:

1. Promote awareness with regards to record-keeping by all stakeholders.
2. Ensure the availability and easy accessibility of information on record-keeping.

INDICATORS OF PROGRESS:

1. The access to and the quality of material generated to support the correct record-keeping measures.
2. The quality of training material available both for initial training and additional training to professional users and distributors to support the correct record-keeping measures.
3. Compliance in the area as obtained during inspections.

7. CONTROLS ON THE USE OF PLANT PROTECTION PRODUCTS IN SPECIFIED AREAS

The Sustainable Use of Pesticides Regulations (Legal Notice 489 of 2011) specify the controls required on the use of PPPs in specified areas. The objectives of the NAP in terms of such controls shall be:

1. The prohibition of aerial spraying with the exception of special cases for which it is deemed to be absolutely necessary.
2. To ensure the reduction of pesticide use in specific areas.
3. To promote the practice of Integrated Pest Management techniques, and alternative applicable techniques of low pesticide-input pest management in specified areas.
4. To ensure the protection of the aquatic environment and drinking water.

A number of measures shall be followed to ensure that the impacts of pesticide use are diminished, regulated or avoided completely, as detailed below.

7.1. Aerial Application

Legal Notice 489 of 2011 concerning the Sustainable Use of Pesticides Regulations, prohibits aerial spraying in Malta. Up to date aerial spraying has not been applied in Malta and there are no records of requests or approval submitted to the MCCAA.

However, on the advice of the Pesticides Control Board, aerial spraying may only be allowed in special cases provided the following conditions are met:

1. there must be no viable alternatives, or there must be clear advantages in terms of reduced impacts on human health and the environment as compared with land-based application of pesticides;
2. the pesticides used must be explicitly approved for aerial spraying by the MCCAA following a specific assessment addressing risks from aerial spraying;
3. the operator carrying out the aerial spraying must hold a certificate as a competent professional user;
4. the enterprise responsible for providing aerial spray applications has been approved by the MCCAA;
5. if the area to be sprayed is in close proximity to areas open to the public, specific risk management measures to ensure that there are no adverse effects on the health of bystanders has to be included in the approval. The area to be sprayed cannot be in close proximity to residential areas;
6. as from 2013, the aircraft has to be equipped with accessories that constitute the best available technology to reduce spray drift.

Environmental risks should also be taken into consideration. Necessary measures for warning residents and bystanders in due time and to protect the environment in the vicinity of the area sprayed have to be taken accordingly if it is deemed necessary to resort to aerial spraying.

7.2. Reduction of Pesticide Use or Risks in Specific Areas

Legal Notice 489 of 2011, the Sustainable Use of Pesticides Regulations, provides for measures to ensure the use of pesticides is minimised or prohibited in certain specific areas.

Legal Notice 489 of 2011 also provides for appropriate risk management measures to be taken. PPPs should be applied during periods of low human activity, as deemed most appropriate and as laid down in guidance material provided by MCCAA. The use of low-risk PPPs as defined in Regulation (EC) 1107/2009 as implemented by the Plant Protection Products (Implementation) Regulations of Legal Notice 284 of 2011, and biological control measures should be considered in the first place.

The specific areas in question are:

1. areas used by the general public or by vulnerable groups such as public parks and gardens, sports and recreation grounds, school grounds and children's playgrounds, and in the close vicinity of healthcare facilities.
2. protected areas as defined in the Water Policy Framework Regulations of Legal Notice 345 of 2015, or other areas identified for the purposes of establishing the necessary conservation measures in accordance with the provisions of the Conservation of Wild Birds Regulations of Legal Notice 79 of 2006 and the Flora, Fauna and Natural Habitats Protection Regulations of Legal Notice 311 of 2006.
3. recently treated areas used by or accessible to agricultural workers.

SPECIFIC MEASURES:

1. Maintain liaison to ensure that standards which relate to playgrounds also include risk mitigation measures to minimise effects of pesticides on persons visiting the ground with special focus on the vulnerable groups such as children.
2. The application of risk mitigation measures for areas used by the general public such as public parks and gardens, sports and recreation grounds, school grounds and children's playgrounds, and in the close vicinity of healthcare facilities shall include, but are not exhaustive of:
    i. the use of non-chemical means including cultural and mechanical methods at all times to reduce use of pesticides
    ii. the prohibition of the use of herbicides in such areas except in very urgent cases where there are no other alternatives
    iii. the prohibition of use of pesticides formulations classified as toxic carcinogenic, mutagenic or toxic for reproduction pursuant to the Classification, Labelling and Packaging of Substances and Mixtures (CLP) (Implementation) Regulations, 2009 of Legal Notice 214 of 2009
    iv. the placing of clearly visible signage at times when pesticides are being applied and up till a minimum of 24 hours pesticides are applied or until no residues are present on the vegetation, whichever is the longer period
    v. the application of pesticides shall be during times with low human activity, such as during weekdays at very early hours of the day in case of parks and grounds, and in case of schools and educational institutions during times when students are not in the premises

vi. pesticide users in the close proximity to areas used by the general public or by vulnerable groups will inform concerned persons beforehand in the most appropriate and effective manner

vii. pesticides which liberate gases or volatile substances should not be used in civil areas or in close proximity to areas used by general public

viii. a precautionary approach should be taken when applying risk mitigation

3. Availability of up-to-date guidance material to support the application of measures to ensure the use and risk of pesticides in these specific areas.

A derogation may apply to the above risk mitigation measures in case of plant health emergency cases. Such a derogation may be provided when a request is lodged by the Plant Protection Directorate (PPD) within the MESDC, as the competent authority responsible to manage emergency cases related to plant health, at least two days before any action is taken, so as to evaluate any mitigation measures to be imposed by MCCAA.

In cases of extreme emergency, the PPD may take immediate action, which should be followed by a notification to MCCAA. In such a case the PPD will be responsible to ensure all necessary risk mitigation measures are taken to ensure minimal impacts on human and environmental health.

INDICATORS OF PROGRESS:

1. Inclusion of risk mitigation measures to minimise effects of pesticides on visitors in national standards which relate to playgrounds.
2. Accessibility to up-to-date guidance material referencing risk mitigation measures and biological control measures, to reduce the use and risk of pesticides in such areas.
3. Accessibility to advisory services relating to measures to reduce the use and risk of pesticides in these specified areas such as low-risk plant protection products and biological control measures.

7.3. Protection of the aquatic environment and drinking water

Legal Notice 489 of 2011, the Sustainable Use of Pesticides Regulations, provides for appropriate measures to protect the aquatic environment and drinking water supplies from the impact of PPP use in Malta.

Risk mitigation measures which support and are compatible with relevant provisions of the Water Policy Framework Regulations of Legal Notice 345 of 2015 and with Regulation (EC) No 1107/2009 as implemented by the Plant Protection Products (Implementation) Regulations of Legal Notice 284 of 2011, shall be adopted.

SPECIFIC MEASURES:

1. Preference should be given to pesticides that are not classified as dangerous for the aquatic environment pursuant to the Dangerous Substances and Preparation Regulations of Legal Notice 306 of 2008, as well as to those which do not contain priority hazardous substances as set out in the Water Policy Framework Regulations. This preference shall be supported by

information made available to stakeholders on the classification of PPPs based upon risk to the aquatic environment enabling the professional user to make risk-based decisions to minimise the risks on the aquatic environment and drinking water.

2. Preference should be given to the most efficient application techniques such as the use of low-drift pesticide application equipment especially in vertical crops such as hops, orchards and vineyards.
3. Mitigation measures which minimise the risk of off-site pollution, resultant of spray drift, drain-flow and run-off, should be used and should take regard of the appropriately sized buffer zones for the protection of non-target aquatic organisms and safeguard zones for surface and groundwater used for the abstraction of drinking water as referenced in Annex V. Reference to the mitigation measures, buffer and safeguard zones are available in the Guidance Document on Integrated Pest Management in the Maltese Islands, 2015 authorised by the MCCAA available on the MCCAA website.
4. Pesticide applications along roads and very permeable surfaces or other infrastructure close to surface water or groundwater or on sealed surfaces with a high risk of run-off into surface water or sewage systems should be reduced as far as possible or eliminated.
5. Pesticide storage should be in line with Good Plant Protection Practice. Reference to the storage distances to further safeguard protection of the aquatic environment and drinking water from PPP contamination are presented in Annex IV. Reference to storage distances in line with Good Plant Protection Practice are available in Guidance Document on Integrated Pest Management in the Maltese Islands, 2015 authorised by the MCCAA available on the MCCAA website. Extra attention should be given when PPPs are stored in the vicinity of open boreholes thus resulting in a greater risk of contamination.
6. Training in line with Good Plant Protection Practice with reference to the appropriate measures to protect the aquatic environment and drinking water supplies from the impact of pesticides adopted in Malta is included in the initial and additional training requirements for professional users and distributors.
7. Advisor availability is also intended to acts as supportive means to be in line with Good Plant Protection Practice and support the above Risk mitigation measures.

INDICATORS OF PROGRESS:

1. Compliance in the area as recorded during inspections and sampling.
2. Water quality data compliant with quality standards.
3. Record-keeping by professional users in-line with the guidance material on Integrated Pest Management authorised by the MCCAA.
4. Quality of training provided to professional users and distributors on measures to protect the aquatic environment and drinking water supplies from the impact of pesticides adopted in Malta.
5. Accessibility and quality of guidance material on measures to protect the aquatic environment and drinking water supplies from the impact of PPP use in Malta.
6. Accessibility to the information made available to stakeholders on the risk to the aquatic environment for authorised PPPs, enabling the professional user to make risk-based decisions to minimise the risks on the aquatic environment and drinking water.

8. INTEGRATED PEST MANAGEMENT AND ALTERNATE LOW PESTICIDE-INPUT PEST MANAGEMENT STRATEGIES

It is required that necessary measures are maintained by the MCCAA to promote low pesticide-input pest management, giving wherever possible priority to non-chemical methods, so that professional users of pesticides switch to practices and products with the lowest risk to human health and the environment among those available for the same pest problem. Low pesticide-input pest management includes integrated pest management (IPM) as well as organic farming according to Subsidiary Legislation 427.93, Legal Notice 15 of 2018 entitled Organic Production and Labelling of Organic Products Regulations, 2018.

Measures to promote alternate low pesticide-input pest management strategies have been addressed through awareness, training in view of certification as professional users and distributors acknowledged by the MCCAA, and the availability of a Guidance Document on Integrated Pest Management in the Maltese Islands, 2015 to support IPM. The guidance document supports the general principles of IPM set out in Schedule III of Legal Notice 489 of 2011 entitled Sustainable Use of Pesticides Regulations transposing Annex III of the SUD, and includes recommendations on prevention and suppression of harmful organisms, monitoring, non-chemical measures, protection of bees, protection of water, protection of human health, disposal and record-keeping which are the minimum measures that farmers should implement.

The Rural Development Programme[16] (RDP) covering period 2014-2020, supports the sustainable use of pesticides through several measures and by incentivising the use of mechanical systems. Farmers are also encouraged to reduce the use of pesticides on a calendar basis and apply pesticides when necessary.

The RDP covering period 2014-2020 also reports that certain agricultural activities in Malta may have negative impacts on the quality of the natural environment related to intensive agricultural systems and associated increased use of inputs. This is turn results in contamination of soil, water and air, fragmentation of natural habitats and loss of wildlife, and land abandonment and marginalisation. Agri-environmental measures such as support for low input farming and support for the use of environmentally friendly PPPs in vineyards, amongst others proposed within the RDP, provide an incentive in terms of support to farmers in fulfilment of the environmental obligations.

As per Legal Notice 489 of 2011, farmers should adhere to IPM guidance material which require that careful consideration of all available plant protection methods and subsequent integration of appropriate measures that discourage the development of populations of harmful organisms and keep the use of PPPs and other forms of intervention to levels that are economically and ecologically justified and reduce or minimise risks to human health and the environment. IPM emphasises the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms.

It is also required that the necessary tools and information are available at the disposal of professional users to support pest monitoring and decision-making. The availability of advisory services on integrated pest management is also a mandatory tool to support low pesticide-input pest management strategies as a means to support the sustainable use of pesticides in Malta.

[16] The RDP falls under the remit of the MESDC

Increasing public awareness on the IPM and alternate low pesticide-input pest management strategies further supports the understanding of the importance of the implementation of such techniques and possibly increases consumer demand for products grown through IPM Systems, consequently giving greater incentives for grower to resort to such systems.

The main objectives of the NAP towards the promotion of the implementation of Integrated Pest Management and alternate low pesticide-input pest management strategies in Malta are:

1. Promoting low pesticide-input pest management strategies and available incentives, including the financial incentives within the RDP covering period 2014-2020 for agricultural producers applying general and/or specific principles of integrated pest management through collaboration with respective entities.
2. Encouraging the use of non-chemical alternatives to pesticides wherever possible.

8.1. Identification of Risk Levels for Farmers

It is required that professional users have at their disposal information and tools for the identification of risk levels to support decision making and pest monitoring in line with low pesticide-input pest management. Currently, access to risk levels is collectively available through the details presented in the official list of PPPs that are currently authorised for use in the Maltese Islands in accordance with the provisions of Regulation (EC) 1107/2009 implemented in Malta through Legal Notice 284 of 2011, Plant Protection Products (Implementation) Regulations, issued under the Pesticides Control Act (Cap. 430) which is available online on the MCCAA website.

The consolidation of specific information regarding particular pest or disease for specific crops and relative human, animal and environmental risks and easy access to such information, will support professional users to differentiate between the different authorised products in accordance to their risk levels. The possibility to exploit the specific information, and rank the relative human, animal and environmental risks according to the particular conditions which are specific to a particular site for the use of a PPP, taking into consideration issues such as water courses in the vicinities, soil type and crop, would further support professional users to select the product which will have the least environmental and health impact.

The availability of specific information collected in one easily accessible system to differentiate between different risk levels of different products is expected to support a reduction of pesticide emissions into the environment and in minimising risks of contamination through the use of pesticides which may otherwise be hazardous for the region.

SPECIFIC ACTIONS:

1. Maintain liaison with applicable entities to support the evaluation for the possibility of establishing a system whereby professional users are informed of any expected climate conditions which may favour pests and diseases, as a proactive mechanism whereby by preventing certain diseases and infestations the use of plant protection products will be eventually reduced.
2. Liaison with PPD for the evaluation for the development of systems of information dissemination regarding plant protection in parallel with climate conditions and forecasts.

3. Improve the availability of information and tools at the disposal of professional users for the identification of risk levels to support decision-making and pest monitoring.
4. Evaluation for the identification of active substances which are toxic, highly toxic, bio-accumulative, carcinogenic, mutagenic, or reproductively toxic for which there are safer alternatives in view of liaison with monitoring entities for pesticide residue levels.
5. Liaison with entities providing advisory services to farmers to support the practice and guidance towards the identification of risk levels during use of PPPs to support decision making and pest monitoring in line with low pesticide-input pest management.

8.2. Provision of Advisory services

The availability of advisory services to support IPM plays an important role in attaining the provisions of the Sustainable Use of Pesticides Regulations imparted within Legal Notice 489 of 2011.

In addition to the MCCAA-acknowledged advisors as addressed in section 4.4 of this document, Farm Advisory Services (FAS) in line with the requirements of Legal Notice 113 of 2010 entitled Farm Advisory Services Regulations, 2010 within Subsidiary Legislation 117.30 are available to assist farmers and livestock breeders by providing professional advice on statutory management requirements, good agricultural and environmental conditions, occupational safety standards and all legislation for the improvement of the overall performance of their holding.

As an improvement to the effectiveness of measures outlined in the RDP for the 2007-2013 programming period, the RDP covering the 2014-2020 period shall implement the strengthening of the FAS, with the aim of enhancing its effectiveness in line with Article 8(1)(c)(vi) of Regulation (EU) No 1305/2013. The FAS will provide support and guidance to beneficiaries, particularly with regards to regulatory requirements concerning agri-environment-climate measures, organic farming measures, and support provided for areas facing natural and other specific constraints. The expertise and knowledge provided by the FAS will permit beneficiaries to enhance the performance of their agricultural holding and enhance the marketing and quality of their local produce, adapt to cross-compliance obligations, whilst ensuring adherence to good agricultural and environmental conditions (GAEC), amongst others.

The FAS, as an organisation providing advice to farmers, is an important player in supporting knowledge needs. However, advisory support to meet all the needs goes beyond the mere provision of information to farmers. Through RDP funding, advisors will help farmers meet their practical obligations under cross-compliance but will also go beyond these obligations to explain the objectives, the underlying policies, and how they contribute to sustainable agriculture. Advisors shall thoroughly consider the individual situation of each farmer or rural business, and accordingly present personalized guidance and advice, whilst may also source the provision of additional specialist expertise if deemed necessary.

Through a sub-measure, the RDP covering the 2014-2020 period, also addresses the provision of support to those entities who are in the process of setting up a farm advisory service. Through this sub-measure, the farm advisory services will be required to provide a range of support services for farmers across the agricultural sector, in line with the description of appropriate types of advice.

Through an additional sub-measure, the RDP covering period 2014-2020 also addresses support to help benefiting from the use of advisory services. This improvement was addressed following the deficiencies observed through the implementation of the previous RDP.

The RDP covering the 2014-2020 period will also establish a "rural hub", which will serve as an advisory centre for potential beneficiaries requiring guidance and information on funding opportunities, amongst others, and general information related to EAFRD and the RDP. In connection with the hub, Malta will engage rural animators with the role of filtering requests for guidance and when required direct beneficiaries to the most suitable source of advisory services and expertise.

Extension Services are also available to further support professional users on the sustainable use of pesticides and Good Agricultural Practice principles. The Directorate for Diversification and Competitiveness within the MESDC has set up an extension service for farmers to assist them on salient issues such as production, nutrition, fertilizer application, overall efficiency and Good Agricultural Practice.

8.3. Promotion of Organic Farming

The RDP covering the 2014-2020 period identifies the current application of organic farming in Malta. In 2011, only 0.2% of all Maltese agricultural land was utilised to grow organic produce. In recent years, organic farming grew only marginally in Malta.

Good agricultural and environmental conditions (GAEC) are necessary for the implementation of organic farming. One of the challenges for organic farming in Malta lies in the nature of the holdings which are small and scattered land parcels and fragmented, implying that products are likely to be cross-contaminated from agricultural practices on neighbouring field parcels. Thus, the small size of land parcels continue to pose significant challenges and real limitations on the ground with respect to implementation. In addition, the climatic conditions of the Maltese Islands, namely high temperatures and high humidity typical of the Maltese Islands, makes it extremely tough to control or contain particular pests and/or diseases. Nonetheless, taking into account the local scenario, Government aims to promote organic farming under the 2014-2020 period. Measures listed in the RDP covering period 2014-2020 provide support for farmers interested in organic conversion and for farmers already certified to maintain organic farming practices and methods.

The competent authority for Organic Farming Regulations is the Agriculture Directorate within the MESDC.

INDICATORS OF PROGRESS:

1. The number of agricultural producers engaged in IPM.
2. The number of agricultural producers engaged in organic farming.
3. The number of advisory services registered.
4. The availability of guidance material to support IPM and alternate low pesticide-input pest management strategies.
5. The quality of training to professional users in relation to IPM and alternate low pesticide-input pest management strategies.
6. Compliance with the principles of IPM as identified through inspections.

7. Information awareness dissemination in relation to IPM and alternate low pesticide-input pest management strategies.

9. RISK INDICATORS AND DATA GATHERING

9.1. Risk Indicators

Regulation 14 of Legal Notice 489 of 2011 requires that risk indicators are established to measure progress achieved in the reduction of risks and adverse impacts from pesticide use on human health and the environment. In accordance with Article 15 of the SUD, harmonised risk indicators are to be introduced at the European level. Following their introduction, Member States may continue to use existing national indicators or adopt other appropriate indicators in addition to the harmonised indicators.

Currently in Malta, data on the use of PPPs is collected by the NSO every 5 years to meet the requirements of Regulation 1185/2009, as outlined in section 9.2.1 of this document. Such data supports the possible identification of any related risks that may arise.

Up to date, national risk indicators have not yet been identified for Malta.

Data obtained from testing and research conducted at research institutes in Malta pertaining to the aquatic environment, biodiversity index (including the effects on bees) and soil may also support the identification of risk indicators, and trends in the use of certain active substances. Priority Items, such as crops, regions or practices, and active substances that require particular attention to good practices may also be identified and tackled in order to achieve the objectives of Regulations listed in Legal Notice 489 of 2011 to reduce the risks and impacts of pesticide use on human health and the environment and to encourage the development and introduction of integrated pest management and of alternative approaches or techniques in order to reduce dependency on the use of pesticides.

GENERAL MEASURE:

1. Maintain liaison with research institutes, entities responsible for the monitoring of PPP usage, aquatic environment, soil and biodiversity index, and other stakeholders to support the identification of risk indicators for Malta.

9.2. Data Gathering

9.2.1. Data on Sales and Usage of PPPs

Data on pesticides is collected annually in accordance with Regulation (EC) No 1185/2009 concerning statistics on pesticides which establishes a common framework for the systematic production of community statistics on the placing on the market and use of those pesticides. The competent authority responsible for the reporting of such data is the National Statistics Office of Malta (NSO).

For the collection of data on the sales of pesticides, the NSO obtains two datasets from the MCCAA on an annual basis. The first contains a list of active substances that are authorised in Malta, and the second one contains a list of recognised Authorisation Holders or local representatives where applicable, for Malta. Data on sales of authorised PPPs is then collected through an online survey (via email) where the total amount in kilograms and/or litres sold of every product is collected from all recognised importers. By using the composition in weight, the total amount of active substance sold for each product is calculated.

Data on the use of PPPs in agricultural use is collected every five years. The last data collection on such use was conducted in 2014. The data collection establishes information on the amounts of PPPs used during the production of Malta's most important crops and is aimed to establish the extent of PPP use on particular crops through a fully stratified sample of farmers. The data collected in the survey includes the proportion of the crop receiving PPP treatments, the number of times crops were treated with each PPP, the seasonality of PPP use, methods of application, and the range and types of PPPs applied. Through this survey the NSO will be able to monitor PPP usage in Malta over time.

Such data supports the possible identification of any related risks that may arise.

9.2.2. Data Gathering and Monitoring from Controls on the Aquatic Environment and Drinking Water

In order to identify the presence of, as well as the possible impacts of, the use of pesticides on the aquatic environment, the Water Services Corporation (WSC), the Environment and Resources Authority (ERA) and the Energy and Water Agency (EWA) collect data pertaining to analysis of pesticide residues in Drinking Water, Surface Water and Groundwater respectively.

Data gathered from the monitoring of Drinking Water, Surface Water and Groundwater shall also support the possible identification of any related risks that may arise from the use of pesticides.

9.2.2.1. Drinking Water

The sampling, testing and monitoring on the presence of pesticide residues in drinking water is conducted by the Water Services Corporation (WSC). Monitoring is performed in accordance to Council Directive 98/83/EC on the quality of water intended for human consumption (The Drinking water Directive) and Commission Directive (EU) 2015/1787 amending Annexes II and III to Council Directive 98/83/EC on the quality of water intended for human consumption. These directives are transposed into national legislation through Legal Notice 17 of 2009 entitled Water Intended for Human Consumption Regulations constituting the principal regulations, and Legal Notice 242 of 2009 entitled Water Intended for Human Consumption (Amendment) Regulations and Legal Notice 299 of 2017 entitled Water Intended for Human Consumption (Amendment) Regulations, 2017 which constitute the amendments to the principal regulations.

Pesticide residue analysis performed on drinking water is ongoing annually, and such data has been collected annually since 2002. Samples are collected from different domestic water taps across Malta and Gozo. An average of 40 samples were collected annually for 2015, 2016 and 2017.

Data of pesticide residue analysis performed on drinking water for 2015, 2016 and 2017, confers good quality for drinking water in Malta with none of the samples exhibiting pesticide residue concentrations above 0.1µg/l. The set standard of 0.1µg/l for each individual pesticide in drinking water is the threshold value as defined by the Drinking Water Directive 98/83/EC.

The competent authority responsible ensuring that water intended for human consumption complies with the requirements of the regulations within Legal Notice 17 of 2009 and its amendments is the Superintendent of Public Health. The Environmental Health Directorate within the Ministry of Health, is the regulator for the drinking water (including private water supplies) quality in Malta.

INDICATORS OF PROGRESS:

1. Analysis of drinking water for the frequency and concentration of pesticide residues meeting quality standards.

9.2.2.2. Coastal inland and Transitional Waters (Surface Water)

Environmental monitoring in coastal, inland and transitional waters (collectively termed as surface waters) is conducted by the Environment and Resources Authority (ERA) to meet the requirements as identified in the Water Framework Directive (WFD), Directive 2000/60/EC establishing a framework for the Community actions in the field of water policy. The requirements for the WFD are transposed into national legislation through Legal Notice 345 of 2015 (Subsidiary Legislation 549.100), and are implemented through the Water Catchment Management Plan (WCMP). The 2nd WCMP covering the period 2015 - 2021 is the current WCMP for the Malta Water Catchment District. ERA shares competency for the implementation of the WFD along with the Energy and Water Agency (EWA). ERA is the competent authority for the monitoring and regulation of surface water in line with S.L. 549.100.

ERA is also entrusted with the technical implementation of the EU Marine Strategy Framework Directive (MSFD) Directive 2008/56/EC establishing a framework for community action in the field of marine environmental policy. The requirements for the MSFD are transposed into national legislation through Legal Notice 73 of 2011 (Subsidiary Legislation 549.62) with the Ministry for the Environment, Sustainable Development and Climate Change (MESDC) being the delegated competent authority for implementation of these regulations. The MSFD applies to all marine waters under jurisdictional rights with overlapping MSFD and WFD requirements for coastal waters.

Contaminants are monitored in ten inland surface and transitional water bodies (as delineated by Malta for the purpose of the WFD) and in coastal and marine waters as part of the requirements of both WFD and MSFD. Monitoring programmes for surface waters and marine waters are conducted as per the MSFD monitoring programme and the 2nd WCMP. The monitoring programmes are subject to continuous updating on the basis of the monitoring data and improved knowledge.

The contaminants monitored in these waters reflect those listed in Directive 2008/105/EC on environmental quality standards (EQS) in the field of water policy (as amended by Directive 2013/39/EU). The contaminants to be monitored in surface waters, are subsequently controlled through relevant measures when detected concentrations are deemed relevant and/or exceed environmental quality standards. The contaminants monitored are inclusive of some pesticides.

Through the European Maritime and Fisheries Fund 8.3.1 project on marine environmental monitoring, ERA has monitored the contaminants listed in the marine monitoring programme in coastal waters in 2017-2018. Data for this monitoring is due for publishing.

Contaminants of potential EU concern for which data is limited, inclusive of pesticides, are also monitored in surface waters as per the requirements of Watch List Mechanism established by the requirements of the EQS directive. Commission Implementing Decision (EU) 2018/840 establishing a watch list of substances for Union-wide monitoring in the field of water policy pursuant to Directive 2008/105/EC and repealing Commission Implementing Decision (EU) 2015/495, lists these substances which is inclusive of pesticides.

In 2017 ERA monitored the Watch List substances in coastal waters as listed in Commission Implementing Decision (EU) 2015/495. All parameters at the monitoring sites resulted to be less than the respective limit of quantification (LOQ). One positive result was obtained for one of the Neonicotinoids (imidacloprid) at one of the monitoring sites. Given that this site was chosen as it is considered a reference site, detection of such contaminant at this site does not tally with known

pressures. The site is a deep, exposed water body and the selected monitoring station within this water body is located along a coastline which is characterised by high cliffs. Therefore agricultural run-off within such area is not expected to be significant. Furthermore, no point pressures that may have contributed to such a result are known at the site. Within this context, no conclusions can be drawn on the basis of this one-off result, which result needs to be confirmed in future monitoring programmes. Currently imidacloprid product in Malta is withdrawn from the market.

The Watch List Mechanism complements monitoring data gathered from the WFD monitoring programme.

Further monitoring exercise covering the chemical substances listed in both Commission Implementing Decisions (EU) 2015/495 and (EU) 2018/840 shall be undertaken by ERA.

INDICATORS OF PROGRESS:

1. Analysis of surface water for the frequency and concentration of pesticide residues meeting quality standards.

9.2.2.3. Groundwater

The monitoring on groundwater is conducted by the EWA to meet the requirements for the establishment of programmes for the monitoring of groundwater as identified in the Water Framework Directive (WFD), Directive 2000/60/EC establishing a framework for the Community actions in the field of water policy. The requirements for the WFD are transposed into national legislation through Legal Notice 345 of 2015 (Subsidiary Legislation 549.100) and are implemented through the Water Catchment Management Plan (WCMP). The 2nd WCMP covering the period 2015 - 2021 is the current WCMP for the Malta Water Catchment District.

Groundwater monitoring is also regulated by the Groundwater Directive (GWD), Directive 2006/118/EC on the protection of groundwater against pollution and deterioration, which is transposed into national legislation through Legal Notice 108 of 2009, as amended by Legal Notice 223 of 2015 and Act XXV of 2015 (Subsidiary Legislation 549.53).

The regulation of groundwater abstraction sources in so far as defined in the MRA Act Cap 423 of the National Laws of Malta, falls within the competence of the Malta Resources Authority (MRA).

As outlined in the 2nd WCMP, groundwater bodies for monitoring are grouped into seven groupings based on risk classification. The monitoring network is representative of each groundwater body. Both quantitative and qualitative monitoring is conducted. As drawn in the 2nd WCMP, the qualitative groundwater monitoring strategy adopted in Malta envisages a six-year cycle starting with a 'Surveillance' monitoring exercise which is then complemented by five years of 'Operational' monitoring.

Surveillance monitoring is required to support the validation of the risk assessments undertaken, once every six-years, and entails a full qualitative analysis of the status of the groundwater body whilst identifying those parameters for which more detailed (operational) monitoring is required to enable the assessment for long term trends in natural conditions and in pollutant concentrations resulting from anthropogenic activities.

Operational monitoring is carried out during the five-year periods between Surveillance Monitoring and can be considered as a specific monitoring exercise focused on assessing the specific identified risks to the achievement of the WFD's objectives. This monitoring exercise is carried out twice every year

during the five-year period between the Surveillance Monitoring exercises. Operational monitoring is specifically carried out within each groundwater based on the analysis of the results of the Surveillance Monitoring programme and the pressures and impacts assessment undertaken in the lead up to the formulation of the respective WCMP.

Monitoring for the presence of pesticides is carried out on a six-month basis from the dedicated groundwater quality monitoring network, and involves the sampling of approximately 40 private and publicly owned groundwater stations, which are located around the Maltese islands to guarantee that the gathered data pertaining to groundwater quality is collected from all the main groundwater bodies.

The results of the monitoring programme are evaluated as part of the assessment of the status of Malta's groundwater bodies. Moreover, the analysis of the results of the surveillance and operational monitoring programme is also central to the development and implementation of specific measures, where applicable.

Pesticide pollution in groundwater has to date not been detected in the analysis of groundwater quality in the Maltese islands.

As reported within the 2nd WCMP with respect to pesticides, analyses focused on particular active ingredients during the surveillance monitoring exercise and 'total pesticides' during the operational monitoring programme.

INDICATORS OF PROGRESS:

1. Analysis of groundwater in accordance to WFD and GWD quality standards.

9.2.3. Data Gathering on Acute and Chronic Poisoning and Development of Risk Indicators for Human Health

Directive 2009/128/EC, as implemented through the Sustainable Use of Pesticides Regulations within Legal Notice 489 of 2011, requires Member States to put in place systems for gathering information on pesticide acute poisoning incidents, as well as chronic poisoning developments where available, among operators, agricultural workers or persons living close to pesticide application areas.

Malta currently does not have a Poison Center. The Medicines and Poisons Information Service, at Mater Dei Hospital (MDH), is providing a similar service to that offered by a Poison Center. However, various factors that enable the efficient operation of a Poison Centre are currently missing. One of the limiting factors is the availability and accessibility to the right information and expertise. To be able to answer enquiries, the poisons information service needs to maintain a comprehensive collection of information about chemicals, pharmaceuticals, products, plants and venomous animals and have available adequately trained personnel. It also needs to develop treatment protocols and guidance material in order to ensure that the information and advice given is consistent.

MCCAA shall liaise accordingly and lay down measures for the Authority to be notified in the event of emergency cases reporting acute or chronic cases of poisoning in relation to pesticide use.

Article 45 of Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended by Regulation (EU) No 2017/542, promotes the harmonisation of the information collected by the appointed bodies responsible for receiving information from importers and downstream users placing mixtures on the market (Poisoning Centres) in order to formulate

preventive and curative measures in the event of emerging health responses. The scope of this Regulation also includes PPPs. The MCCAA is the appointed body for Malta.

Access to such information gathering by the Medicines and Poisons Information Section, at MDH, allows for the integration of information where applicable, for the follow up of any reported acute poisoning incidents for the purpose of detecting the reasons and for considering, if applicable, risk management measures. Information regarding the root cause behind the incident such as if the reported poisoning incident was a consequence of a correct PPP use, or a consequence of overdose or misuse may also highlight applicable risk management measures and support the development of risk indicators for human health.

10. INDICATORS USED IN THE REVIEWED NATIONAL ACTION PLAN COVERING THE PERIOD 2019-2023

To determine the progress made on the objectives laid down in the NAP covering the period 2019 to 2023, and the corresponding measures, Malta will use indicators that are divided into the 6 main areas identified for the reviewed NAP, which are further classified into sub groups according to the measures and objectives with each main area.

These indicators are summarized in Table 4 below.

Section	Indicator of Progress	Entity responsible for monitoring and/or the provision of information	Entity responsible for Regulation
4.1. Distributors	1. The number of trained and certified distributors, including employed personnel which are available at point of sale.	MCCAA (TRD)	MCCAA (TRD)
	2. Compliance in the area by distributors as obtained during inspections.	MCCAA (TRD)	MCCAA (TRD)
	3. Updated training records for authorised distributors.	MCCAA (TRD)	MCCAA (TRD)
	4. The number of authorised PPPs classified as Acute Toxicity Categories 1, 2 and 3 in Malta covering the review period.	MCCAA (TRD)	MCCAA (TRD)
	5. The quality of information material generated regarding the risks of pesticides for human health and the environment for micro-distributors in Malta where applicable.	MCCAA (TRD) in collaboration with micro-distributors, MESDC (RDD), ERA & MFH	MCCAA (TRD)
4.2. Professional Users	1. The number of trained and certified professional users.	MCCAA (TRD)	MCCAA (TRD)
	2. Compliance in the area by professional users as obtained during inspections.	MCCAA (TRD) in collaboration with MESDC (ARPA[17])	MCCAA (TRD)
	3. Updated training records for authorised professional users.	MCCAA (TRD)	MCCAA (TRD)
	4. The number of authorised PPPs classified as Acute Toxicity Categories 1, 2 and 3 in Malta covering the review period.	MCCAA (TRD)	MCCAA (TRD)
4.3. Trainers	1. The number of trained and certified professional users and distributors.	MCCAA (TRD)	MCCAA (TRD)

[17]ARPA – responsible for beneficiaries claiming aid under the CAP

Section		Indicator of Progress	Entity responsible for monitoring and/or the provision of information	Entity responsible for Regulation
4.4. Advisors	1.	The number of MCCAA-acknowledged advisors.	MCCAA (TRD-RAD) in collaboration with PCB	MCCAA (TRD)
4.5. Non-professional Users and the General Public	1.	The access to and the quality of up-to-date information material and activities targeting the general audience and non-professional users with particular emphasis to vulnerable groups.	MCCAA (TRD) in collaboration with MESDC (RDD), ERA, WasteServ Malta Ltd., OHSA and other applicable entities	MCCAA (TRD)
4.6.1. Guidance material for non-professional users and the general public	1.	The access to and the quality of up-to-date guidance material targeting the general audience and non-professional users with particular emphasis to vulnerable groups.	MCCAA (TRD) in collaboration with MESDC (RDD), ERA, WasteServ Malta Ltd., OHSA and other applicable entities	MCCAA (TRD)
4.6.2. Guidance material for professional users	1.	The access to and the quality of up-to-date guidance material targeting the identified issues.	MCCAA (TRD) in collaboration with MESDC(RDD) and other applicable entities	MCCAA (TRD)
5.1. Testing and Certification of Pesticide Application Equipment (PAE)	1.	The number of PAEs inspected and certified as complying with the specified standards.	MCCAA (TRD and SMI) in collaboration with MESDC (Ambjent Malta) and Ministry of Gozo	MCCAA (TRD and SMI)
	2.	The number of PAEs that failed the inspection vis-à-vis the total number of PAEs inspected.	MCCAA (TRD and SMI) in collaboration with MESDC (Ambjent Malta) and Ministry of Gozo	MCCAA (TRD and SMI)
	3.	The number of activities and/or awareness sessions held for professional users and the information material produced to support the activities and sessions held.	MCCAA (TRD in collaboration with SMI, MESDC (RDD) and Ministry of Gozo	MCCAA (TRD and SMI)
	4.	Compliance in the area by professional users as obtained during inspections.	MCCAA (TRD) in collaboration with MESDC (ARPA[18])	MCCAA (TRD)
	5.	Compliance to standards for PAE testing.	MCCAA (SMI)	MCCAA (SMI)

[18] ARPA – responsible for beneficiaries claiming aid under the CAP

Section		Indicator of Progress	Entity responsible for monitoring and/or the provision of information	Entity responsible for Regulation
5.2. Establish and Manage of a list of Qualified Inspectors	1.	The quality of the inspection and certification procedures observed during compliance procedures.	MCCAA (TRD and SMI)	MCCAA (TRD and SMI)
6. Controls on Handling, Storage and Disposal of Plant Protection Products	1.	The access to and the quality of material generated to support the mandatory measures for operations related to storage, handling, dilution and mixing of pesticides before application and operations related to handling of packaging and remnants of pesticides, disposal of any remaining tank mixtures and pesticide remnants and cleaning of the equipment after application.	MCCAA (TRD) in collaboration with MESDC (RDD), WastesServ Malta Ltd, OHSA and other applicable entities	MCCAA (TRD)
	2.	The quality of training material available both for initial training and additional training to professional users and distributors.	MCCAA (TRD) in collaboration with MESDC (RDD), WasteServ Malta Ltd., OHSA and other applicable entities	MCCAA (TRD)
	3.	Compliance in the area as obtained during inspections.	MCCAA (TRD) and MESDC (ARPA[19])	MCCAA (TRD)
6.1. Occupational Health and Safety considerations during the Handling of Plant Protection Products	1.	The access to and the quality of material generated to support the mandatory measures and health and safety considerations during the handling of PPPs.	MCCAA (TRD) in collaboration with OHSA	MCCAA (TRD) & OHSA
	2.	The quality of training material available both for initial training and additional training to professional users and distributors to support the mandatory measures and Occupational health and safety considerations during the handling of PPPs.	MCCAA (TRD) in collaboration with OHSA	MCCAA (TRD)
	3.	Compliance in the area as obtained during inspections.	MCCAA (TRD) and MESDC (ARPA[19])	MCCAA (TRD)

[19] ARPA – responsible for beneficiaries claiming aid under the CAP

Section		Indicator of Progress	Entity responsible for monitoring and/or the provision of information	Entity responsible for Regulation
	4.	The number of incidents reported involving PPP exposure	MFH; OHSA	MFH; OHSA; MCCAA (TRD) where applicable
6.2. Controls on Specific Handling of Plant Protection Products	1.	The access to and the quality of material generated to support the handling techniques and risk mitigation measures to be adopted throughout the stages of the pesticide application procedure to reduce the risks and impacts on human health and the environment.	MCCAA (TRD) in collaboration with MESDC (RDD), OHSA, ERA and other applicable entities	MCCAA (TRD)
	2.	The quality of training material available both for initial training and additional training to professional users and distributors to support the handling techniques and risk mitigation measures to be adopted throughout the stages of the pesticide application procedure to reduce the risks and impacts on human health and the environment.	MCCAA (TRD) in collaboration with MESDC (RDD), OHSA, ERA and other applicable entities	MCCAA (TRD)
	3.	Compliance in the area as obtained during inspections.	MCCAA (TRD) and MESDC (ARPA[20])	MCCAA (TRD)
6.3. Controls on Storage and Transport of Plant Protection Products	1.	The access to and the quality of material generated to support the correct storage and transport principles for PPPs to reduce the risks and impacts on human health and the environment.	MCCAA (TRD) in collaboration with MESDC (RDD), OHSA, ERA and other applicable entities	MCCAA (TRD)
	2.	The quality of training material available both for initial training and additional training to professional users and distributors to support the correct storage and transport principles for PPPs to reduce the risks and impacts on human health and the environment.	MCCAA (TRD) in collaboration with MESDC (RDD), OHSA, ERA and other applicable entities	MCCAA (TRD)

[20] ARPA – responsible for beneficiaries claiming aid under the CAP

Section	Indicator of Progress	Entity responsible for monitoring and/or the provision of information	Entity responsible for Regulation
	3. Compliance in the area as obtained during inspections.	MCCAA (TRD) and MESDC (ARPA[21])	MCCAA (TRD)
6.4. Controls on Disposal of Plant Protection Products	1. The access to and the quality of material generated to support the correct disposal principles for PPPs, their packaging and contaminated PPE to reduce the risks and impacts on human health and the environment.	MCCAA (TRD) in collaboration with MESDC (RDD), OHSA, WasteServ Malta Ltd. and other applicable entities	MCCAA (TRD)
	2. The quality of training material available both for initial training and additional training to professional users and distributors to support the correct disposal principles for PPPs, their packaging and contaminated PPE to reduce the risks and impacts on human health and the environment.	MCCAA (TRD) in collaboration with MESDC (RDD), OHSA, WasteServ Malta Ltd. and other applicable entities	MCCAA (TRD)
	3. Compliance in the area as obtained during inspections.	MCCAA (TRD) and MESDC (ARPA[21])	MCCAA (TRD)
6.5. Record-keeping	1. The access to and the quality of material generated to support the correct record-keeping measures.	MCCAA (TRD) in collaboration with MESDC (RDD)	MCCAA (TRD) and MESDC (RDD)
	2. The quality of training material available both for initial training and additional training to professional users and distributors to support the correct record-keeping measures.	MCCAA (TRD) in collaboration with MESDC (RDD)	MCCAA (TRD)
	3. Compliance in the area as obtained during inspections.	MCCAA (TRD) and MESDC (ARPA[21])	MCCAA (TRD)

[21] ARPA – responsible for beneficiaries claiming aid under the CAP

Section		Indicator of Progress	Entity responsible for monitoring and/or the provision of information	Entity responsible for Regulation
7.2. Reduction of Pesticide Use or Risks in Specific Areas	1.	Inclusion of risk mitigation measures to minimise effects of pesticides on visitors in national standards which relate to playgrounds.	MCCAA (SMI and TRD)	MCCAA (SMI and TRD)
	2.	Accessibility to up-to-date guidance material referencing risk mitigation measures and biological control measures, to reduce the use and risk of pesticides in these specified areas.	MCCAA (TRD) in collaboration with MESDC (RDD)	MCCAA (TRD)
	3.	Accessibility to advisory services relating to measures to reduce the use and risk of pesticides in these specified areas such as low-risk plant protection products and biological control measures.	MCCAA (TRD) in collaboration with MESDC (RDD)	MCCAA (TRD)
7.3. Protection of the aquatic environment and drinking water	1.	Compliance in the area as recorded during inspections and sampling.	WSC (drinking water), MFH (private water supplies), ERA (surface water), EWA (groundwater bodies)	MFH (drinking water and private water supplies) and ERA (surface water)
	2.	Water quality data compliant with quality standards.	WSC (drinking water), MFH (private water supplies) ERA (surface water), EWA (groundwater bodies)	MFH (drinking water and private water supplies) and ERA (surface water)
	3.	Record-keeping by professional users in-line with guidance material on IPM in the Maltese Islands authorised by the MCCAA.	MCCAA (TRD) and MESDC applicable entities	MCCAA (TRD)
	4.	Quality of training provided to professional users and distributors on measures to protect the aquatic environment and drinking water supplies from the impact of pesticides adopted in Malta.	MCCAA (TRD) in collaboration with applicable entities	MCCAA (TRD)
	5.	Accessibility and quality of guidance material on measures to protect the aquatic environment and drinking water supplies from the impact of PPP use in Malta.	MCCAA (TRD) in collaboration with applicable entities	MCCAA (TRD)
	6.	Accessibility to the information made available to stakeholders on the risk to the aquatic environment for authorised PPPs, enabling the professional user to make risk-based decisions to minimise the risks on the aquatic environment and drinking water.	MCCAA (TRD) in collaboration with applicable entities	MCCAA (TRD)

Section		Indicator of Progress	Entity responsible for monitoring and/or the provision of information	Entity responsible for Regulation
8. Integrated Pest Management and Alternate Low Pesticide-Input Pest Management Strategies	1.	The number of agricultural producers engaged in IPM.	MESDC applicable entities; ARPA[22]	MESDC applicable entities; MA
	2.	The number of agricultural producers engaged in organic farming.	MESDC applicable entities; ARPA[22]	MESDC (RDD)
	3.	The number of advisory services registered.	MESDC applicable entities	MESDC applicable entities
	4.	The availability of guidance material to support IPM and alternate low pesticide-input pest management strategies.	MCCAA (TRD) In collaboration with MESDC applicable entities	MCCAA (TRD)
	5.	The quality of training to professional users in relation to IPM and alternate low pesticide-input pest management strategies.	MCCAA (TRD) In collaboration with MESDC applicable entities	MCCAA (TRD)
	6.	Compliance with the principles of IPM as identified through inspections.	MESDC applicable entities; ARPA[22]	MESDC applicable entities
	7.	Information awareness dissemination in relation to IPM and alternate low pesticide-input pest management strategies.	MCCAA (TRD) In collaboration with MESDC applicable entities	MCCAA (TRD)
9.2.2.1. Drinking Water	1.	Analysis of drinking water for the frequency and concentration of pesticide residues meeting quality standards.	WSC	MFH
9.2.2.2. Coastal and Inland Surface Waters	1.	Analysis of surface water for the frequency and concentration of pesticide residues meeting quality standards.	ERA	ERA
9.2.2.3. Groundwater	1.	Analysis of groundwater in accordance to WFD and GWD quality standards.	EWA	MRA[23]

Table 4. The Indicators of progress for the reviewed NAP covering the period 2019-2023

[22] ARPA – responsible for beneficiaries claiming aid under the CAP

[23] The regulation of groundwater abstraction sources by the MRA is limited to the functions as defined in the MRA Act Cap 423 of the National Laws of Malta and subsidiary legislation under the same Act.

11. ENFORCEMENT OF THE NATIONAL ACTION PLAN ON THE SUSTAINABLE USE OF PESTICIDES IN MALTA

11.1. Functions, Powers and Duties of the Competent Authority

The MCCAA is the Competent Authority responsible for the implementation, monitoring and enforcement of the National Action Plan for the Sustainable Use of Pesticides covering the period 2019 to 2023. The MCCAA is also responsible for the dissemination of the obligations arising from the NAP covering the period 2019 to 2023, to the relevant stakeholders and on reporting the implementation of the NAP.

The MCCAA shall also enhance the national knowledge by:

1. Collaborating with the competent authorities responsible for water quality monitoring in order to synergize findings.
2. Collaborating with research entities on any new possible research related to the effects of the use of pesticides.
3. Collaborating with the MESDC for any initiatives to encourage farmers to resort to IPM, Organic Agriculture or alternate low pesticide-input pest management strategies.
4. Collaborating with the Plant Protection Directorate on any emergency cases related to plant health which may arise.
5. Maintaining an electronically available database to the public on PPPs authorised or withdrawn in Malta, containing at least:
    - the name or business name of the holder of the authorisation and the authorisation number
    - the trade name of the product
    - the type of preparation
    - the name and amount of each active substance, safener or synergist which it contains
    - the classification, risk and safety phrases in accordance to Directive 1999/45/EC concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations and to the CLP Regulation
    - the use or uses for which it is authorised
    - the reasons for withdrawal of an authorisation if they are related to safety concerns
    - the list of minor uses referred to in Article 51(8) of Regulation 1107/2009.

11.2. Enforcement

The TRD within the MCCAA, as well as any supplementary entity authorised by the TRD where applicable, is the authority accountable for the enforcement with the scope of ensuring compliance with respect to the National Action Plan for Sustainable Use of Pesticides covering the period 2019 to 2023.

The TRD shall carry out field controls on the basis of random and risk-based sampling, whereby farms regarded as posing higher environmental risks shall be monitored more intensively. The classification

of farms into risk groups will partly be based on the location of the field and the agricultural practices practised on site. Additional inspections target compliance by distributors.

Penalties applicable for infringement of the provisions of the Sustainable Use of Pesticide Regulations within Legal Notice 489 of 2011 such a regulation shall be those provided for in the Pesticides Control Act (Cap. 430).

ACKNOWLEDGEMENTS

Acknowledgements for the contribution in the drawing up of the revised National Action Plan for the Sustainable Use of Pesticides:

- Ministry for the Environment, Sustainable Development and Climate Change
- Environment and Resources Authority
- Malta Resources Authority
- Energy Water Agency
- Water Services Corporation
- National Statistics Office
- Occupational Health and Safety Authority
- Ministry for Health
- Ministry of Gozo
- Food Safety Commission
- Pesticides Control Board
- Transport Malta

ANNEXES

Annex I – PAE Inspection Schedules and Validity Periods

Inspection Schedule for inspections conducted beyond the 1st of January 2020.

	Equipment Classification	Inspection Interval (validity period)
1.	Powered knapsack sprayers with a tank capacity up to 7 litres and an engine power rating up to 2Hp	As a minimum every 5 years
2.	Other powered knapsack sprayers	As a minimum every 3 years
3.	Other PAE not referenced in (1) and (2) above	As a minimum every 2 years

Inspections conducted prior to the 1st of January 2020 shall hold a validity period as referenced below:

	Equipment Classification	Inspection Interval (validity period)
1.	Powered knapsack sprayers with a tank capacity up to 7 litres and an engine power rating up to 2Hp	As a minimum of 5 years
2.	Other powered knapsack sprayers	As a minimum of 4 years
3.	Other PAE not referenced in (1) and (2) above	As a minimum of 3 years

Annex II – Information to be evaluated on the Dangers associated with the Use of Plant Protection Products

Information on the dangers associated with the use of a particular plant protection product can be found on the product label. The label identifies:

- the hazard classification
- the risk and safety phrases
- any restrictions relating to who should use the product
- other safety-related restrictions and conditions

Other information on dangers associated with a PPP is given in:

1. information provided by the pesticide's authorisation holder, for example, the safety data sheet (SDS)
2. other relevant guidance material on using pesticides published by the Malta Competition and Consumer Affairs Authority (MCCAA), the Occupational Health and Safety Authority (OHSA) and other authorities
3. technical, scientific or legal information in relevant trade and professional publications.

The information available on the product label should be used as part of the assessment on how the professional users, employees in the case of companies, other bystanders in the vicinity of the treated area and any other person who could possibly enter treated areas or be in contact with treated materials after the pesticide has been applied could be harmed through the risk of being exposed to the pesticide.

Due consideration should be given to the exposure route of the pesticide, i.e. the possible transmission of the pesticide substances through the skin, by breathing or by swallowing:

A. **ABSORPTION:** The absorption through the skin is possible from the handling of the pesticide concentrate or contaminated equipment, and from exposure to spray drift
B. **INHALATION:** Breathing in a pesticide is very likely, especially when products with volatile active ingredients are used
C. **SWALLOWING**: Swallowing a pesticide through transmission from hand-to-mouth or object-to-mouth is possible due to incorrect handling procedures.

Due consideration should also be given to:

1. The method of application of the pesticide
2. The location for the application of the pesticide

3. The duration of the application and the duration of the action of the pesticide
4. The handling of the containers during the application and after the application
5. Management in the possibility of an accident
6. Whether the exposure routes and contamination may also affect other people or bystanders, entering treated areas or handling treated material
7. The extent of the exposure and possible risks in case of failure of any of the control measures utilised during the application of a pesticide
8. Any harmful effects of the pesticide through the most likely routes into the body.

Annex III – Personal Protective Equipment Practice during the application of Plant Protection Products

1. Personal Protective Equipment (PPE) must be worn during the handling and application of plant protection products (PPPs). The type of PPE and any specific controls which must be used when handling or applying the PPP are provided on the product label.
2. In certain cases, PPE or controls stated on the product label may need to be increased. This may be necessary in any of the following cases:
    a. the application of the PPP in a mixture with another PPP or an adjuvant
    b. the utilisation of the PPP in a confined space
    c. when working with a pesticide for more than eight hours during any day
    d. the application of the PPP at a reduced-volume spray; i.e. applying a PPP in a lower volume of water than the minimum volume recommended on the label for that dose
    e. the application of the PPP in a way not recommended on the label, for example, using hand-held equipment in situations where vehicle mounted or equipment on a trailer would normally be used
    f. performance of tasks not mentioned on the label or on the relevant notice of approval, for example, when entering a newly treated area or checking, repairing or cleaning contaminated equipment.
3. In all situations, even when the product label does not refer to PPE, it is good practice to wear basic PPE such as coveralls, suitable protective gloves and boots at all times when handling and applying pesticides. Where face masks are indicted, the filters should be checked and changed as advised by the manufacturer.
4. The use of PPEs should also be considered by gardeners using ready-to-use products, especially in case of using a product in large quantities, more often or for a longer period of time than would be the case for the domestic users.
5. It is important to:
    a. remove any contaminated PPE as soon as possible to avoid an increased risk of exposure
    b. thoroughly wash protective gloves inside and out at the end of each day's use, avoiding contamination to the user or the environment, especially water
    c. dispose of protective gloves safely and legally after use if the product label states as such or if the gloves are not in a good condition after use
    d. dispose of other contaminated PPE safely and in accordance with legal provisions, in any one of the Civic Amenity Sites or in one of the appropriate sites operated by WasteServ Malta Ltd.

e. clean PPEs in line with the manufacturer's instructions and in a way which is safe for others and the environment

f. take appropriate precautions if contaminated PPE or other contaminated items need to be handled

g. ensure that contaminated protective clothing is never washed with domestic or personal items.

6. PPEs should be kept clean, dry, well ventilated and secure in suitable storage facilities.

7. Separate storage is required for personal clothing, such as coats and other items which are removed whilst activities during which PPPs are used, are being carried out.

Annex IV – Good Practice for the storage of Plant Protection Products

Plant Protection Products should be stored according to the following Good Practice:

1. Storage of plant protection products should be limited to the necessary minimum in time and amount
2. Plant Protection Products should be stored in original containers with labels attached (both Maltese and English)
3. Plant Protection Products on site should still be authorised for placing on the market in accordance with Regulation (EC) 1107/2009;
4. Plant Protection Products on site should not be expired
5. Stored Plant Protection Products should be kept under lock and key
6. Warning Signs should be clear and visible
7. Emergency Number should be clear and visible;
8. Storage areas, such as cabinets, should be so designed so as to contain any possible spillages.

Unless otherwise stated on the label of the plant protection products, the following distances are recommended when storing plant protection products:

1. Less than 20 meters away from water courses.
2. Less than 30 meters from streams, boreholes or well.
3. Less than 100 meters from boreholes used for the provision of water to the public.
4. Less than 30 meters away from the coast and bathing waters.

Annex V – Buffer Zones for the protection of non-target aquatic organisms and safeguard zones for surface and groundwater used for the abstraction of drinking water

Plant Protection Products applications should respect the following:

1. Should not be applied on any type of freshwater path;
2. A minimum distance of 5 meters from passages of natural waters;
3. A minimum distance of 5 meters from streams, boreholes, and cracks in rocks;
4. A minimum distance of 30 meters from boreholes used for the provision of water to the public;
5. A minimum distance of 30 meters from the coast and bathing waters. Special attention should be paid to bystanders. Pesticides should be applied at times of lowest human activity wherever possible