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Impact-Driven Approach to Sustainability Module

Flowers and Ornamentals

ENGLISH VERSION 1.0

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INTRODUCTION

As part of efforts to increase environmental sustainability within good agricultural practices, GLOBALG.A.P. introduces an *Impact-Driven Approach to Sustainability in our standards.* This consists of collecting data from growers on input consumption, processing the data, and transforming it into information with a variety of uses.

Collecting input consumption data from growers and transforming it into information is intended to:

a) Support producers in making their production systems more sustainable through improved decision-making so that the whole supply chain benefits.
b) Help GLOBALG.A.P. gain knowledge of producer realities, which in turn can
   (i) improve GLOBALG.A.P. standards and any other interventions within the supply chain.
   (ii) help make the standard leaner and simplify the assurance.
c) Monitor and evaluate the impact of standards on sustainable farming through the reflection of input indicators on performance.
d) Give the buyer a stronger sense of trust in a certification system that is outcome-based.

Nº	Control Points	Compliance Criteria	Level
	IMPACT DRIVEN APPROACH TO SUSTAINABILITY IN FLOWERS AND ORNAMENTALS		
1	**SITE HISTORY AND MANAGEMENT**		
	One of the key features of sustainable farming is the continuous integration of site-specific knowledge and practical experience into future management planning and practices. This section is intended to ensure that the land, buildings, and other facilities which constitute the fabric of the farm, are properly managed to ensure the safe production of food and protection of the environment.		
1.1	**Site History**		
1.1.1	Is there a reference system for each field, orchard, greenhouse, yard, plot, and/or other area/location used in production?	Compliance shall include visual identification in the form of: • A physical sign at each field/orchard, greenhouse/yard/plot, or other farm area/location or • A farm map which also identifies the location of water sources, rivers, streams, ponds, water storage facilities, storage/handling facilities, unproductive areas, and other landmarks/locations that could be cross-referenced to the identification system. Examples of unproductive areas are low-lying wet areas, woodlands, headland strips, or areas of impoverished soil. No N/A.	Major Must
1.2	**Site Management**		
1.2.2	Has the producer defined quantitative goals for input consumption?	Based on records of input consumption, the producer establishes quantitative goals in relation to the use of the following inputs: plant protection products (PPPs), fertilizers, water, and energy.	Recom.
2	**RECORD KEEPING**		
	Important details of farming practices shall be recorded and records kept.		
2.1	Are all records requested during the external assessment accessible and kept for a minimum period of 2 years, unless a longer requirement is stated in specific control points?	Producers shall keep up-to-date records for a minimum of 2 years. For the initial assessments, producers shall keep records from at least 3 months prior to the date of the external assessment or from the day of registration, whichever is longer. If an individual record is missing, the respective control point dealing with those records is not compliant. No N/A.	Major Must

Nº	Control Points	Compliance Criteria	Level
4	**PLANT NUTRITION**		
4.1	**Nutrients**		
4.1.1	Is the content of major nutrients (NPK) of applied fertilizers known?	Documented evidence/labels detailing major nutrient content (or recognized standard values) is available for all fertilizers used on crops grown under PFA within the last 24-month period.	Major Must
4.1.2	Has the producer taken into account the nutrient contribution of organic fertilizer applications?	An analysis from the supply is carried out or recognized standard values are used, which take into account the contents of NPK nutrients (nitrogen (N), phosphorus (P), potassium (K)) in organic fertilizer applied in order to avoid soil contamination.	Major Must
4.2	**Records of Fertilizer Application** **4.2.1 to 4.2.4:** Are the following records of soil and foliar fertilizer applications, both organic and inorganic, digitally reported to GLOBALG.A.P. through a farm management software?		
4.2.1	Field, orchard, or greenhouse reference and crop?	For all fertilizer applications, records shall be kept detailing the geographical area and the name or reference of the field, orchard, or greenhouse where the registered product crop is located. Records shall also be kept for hydroponic facilities and where fertigation is used. No N/A.	Major Must
4.2.2	Application dates?	The exact dates (day, month, and year) of the application are detailed in the records of all fertilizer applications. No N/A.	Major Must
4.2.3	Applied fertilizer types?	The trade name, type of fertilizer (e.g., NPK), and concentrations (e.g., 17–17–17) are detailed in the records of all fertilizer applications. No N/A.	Major Must
4.2.4	Applied quantities?	The amount of product to be applied in weight or volume relative to a unit of area or number of plants or unit of time per volume of fertigation is detailed in the records of all fertilizer applications. The actual quantity applied shall be recorded, as this is not necessarily the same as the recommendation. No N/A.	Major Must

Nº	Control Points	Compliance Criteria	Level
5	**WATER**		
IDA 3.1	**Awareness on Critical Water Sources**		
IDA 3.1.1	Where information is known to be available, the producer is aware of water sources considered critical as per public knowledge.	The producer is aware of water sources that are considered critical as per public knowledge (media, civil organizations, authorities).	Major Must
IDA 3.2	**Records of Water Use**		
IDA 3.2.1	Are records of water abstracted kept and digitally reported to GLOBALG.A.P. through a farm management software?	The producer shall keep records and digitally report to GLOBALG.A.P. through a farm management software the abstraction of water from water sources.	Major Must
IDA 3.2.2	Are records of water used in irrigation, with total application volumes maintained and digitally reported to GLOBALG.A.P. through a farm management software?	The producer shall keep records and digitally reports to GLOBALG.A.P. through a farm management software of the water used in irrigation/fertigation that includes the date, cycle duration, actual or estimated flow rate, and the volume (per water meter or irrigation unit) updated every month, based on the water management plan and an annual total. This can also be the hours of systems operating on a timed flow basis.	Major Must
6	**INTEGRATED PEST MANAGEMENT**		
	Integrated pest management (IPM) involves the careful consideration of all available pest control techniques and the subsequent integration of appropriate measures that discourage the development of pest populations and keeps PPPs and other interventions to levels that are economically justified and reduce or minimize risks to human health and the environment. Given the natural variation on pest development for the different crops and areas, any IPM system shall be implemented in the context of local physical (climatic, topographical etc.), biological (pest complex, natural enemy complex, etc.), and economic conditions. A pest is considered relevant once it has a significant affect on a registered or relevant crop. Relevance of a particular crop can be based on the following: 1) when a crop is occupying a significant area; 2) when the pest management costs of the crops are significantly high, or 3) the crop value is significant.		
	6.1 to 6.4: Can the producer show evidence of implementing activities that fall under the category of:		
6.1	Prevention?	The producer shall show evidence of implementing at least 1 activity per registered crop that includes the adoption of production practices aimed at reducing the incidence and intensity of pest attacks, and thereby reducing the need for intervention.	Major Must

Nº	Control Points	Compliance Criteria	Level
6.2	Observation and monitoring?	The producer shall show evidence of a) implementing at least 1 activity per registered crop that will determine when and to what extent pests and their natural enemies are present, and b) using this information to plan what pest management techniques are required.	Major Must
6.3	Intervention?	The producer shall show evidence that in situations where pest attacks adversely affect the economic value of a crop, intervention with specific pest control methods will take place. Where possible, non-chemical approaches shall be considered. N/A if the producer did not need to intervene.	Major Must
6.4	Have anti-resistance recommendations, either on the label or other sources, been followed to maintain the effectiveness of available PPPs?	Where the level of a pest, disease, or weed requires repeated controls in the crops, evidence shall be available that anti-resistance recommendations (where available) are followed.	Recom.
IDA 4.1	What is the existing knowledge at company level on the relevant pests, diseases, and weeds to the registered crop in terms of life cycle, damage symptoms, and identification, and is this documented?	A document (digital or in paper) that includes basic information on relevant pests, diseases, and weeds that can affect the registered crop in the specific region is available to demonstrate the necessary knowledge. This may include life cycle, drawings or images that help in its identification, damage symptoms, conditions that promote their development, and time of appearance. Methods to monitor the pest and how to record results are described. No N/A.	Major Must

Nº	Control Points	Compliance Criteria	Level
IDA 4.2	Are strategies to manage relevant pests at farm level documented, including preventive, monitoring, and intervention strategies with a stepwise approach that prioritizes preventive measures and the lowest toxicity interventions?	Strategies shall be documented digitally or on paper. For each relevant pest, the preventive and monitoring methods, as well as the intervention measures, are described. Strategies include: • a stepwise approach to manage pests, starting with preventive measures followed by measures that are compatible with any introduced natural enemies (if applicable). • to only introduce the use of higher toxic or less-compatible PPPs when thresholds are surpassed. • between each step, strategy thresholds are set that define when the next strategy needs to be implemented. Thresholds are defined by the producer based on own experience, external advice, training, and/or local conditions. The document can include a description of growing conditions that could promote the development of the relevant pests and may include properly balanced plant nutrition, humidity, etc. Measures can include a list of natural enemies, physical strategies, etc. Measures to avoid the build-up of resistance to PPPs in pests, pathogens, diseases, and weeds (including rotation of the PPP mode of action) should also be considered. No N/A.	Major Must

Nº	Control Points	Compliance Criteria	Level
IDA 4.3	Are records of monitoring results for key pests, diseases, and weeds documented?	Up-to-date monitoring records are kept (digital or on paper) and shall be useful to describe the presence/absence of a pest, weed, or disease and also to track their development. These records shall at a minimum include the following: • Identification of the plot and crop • Name of person conducting monitoring • Date of monitoring (exact dates) • Name of pest, disease, or weed • Location inside the plot • Decision taken Records shall be archived to allow comparisons of results from different years and different plots. No N/A.	Major Must
IDA 4.4	Is there evidence that the producer has analyzed, at least once a year, the available data on integrated pest management (IPM) in order to identify opportunities to learn and improve their IPM system?	Documented evidence shall be available to show that the following data (at a minimum) have been considered: • Records of pest, disease, or weed monitoring • Strategies used to control pests, diseases, or weeds PPP application records • PPP application equipment maintenance and calibration records • Trends in amounts of PPPs used • Records of monitoring of pests and diseases Also, it is relevant to consider other sources that could lead to understanding the origin of increased pest, diseases, or weeds: • Plant nutrition (fertilizer application) and stress mitigation (biostimulants) • Evaluation and selection of suitable crop or varieties • Vicinity of production areas with high biodiversity • Low-risk use of organic matter (if applicable) • Optimal water irrigation • Productivity data • Weather data No N/A.	Recom.

Nº	Control Points	Compliance Criteria	Level
IDA 4.5	Is there evidence of the implementation of any corrective action if the need for improvement of the IPM system is identified?	As a result of the analysis, conclusions are recorded, including corrective actions (if needed). There shall be evidence of implementation of those corrective actions.	Recom.
7	**PLANT PROTECTION PRODUCTS**		
	In situations where a pest attack will adversely affect the economic value of a crop, it may be necessary to intervene using specific pest control methods, including PPPs. The correct use, handling, and storage of PPPs are essential.		
7.1	**Choice of Plant Protection Products (PPPs)**		
7.1.1	Is a current list kept of PPPs that are authorized in the country of production for use on crops being grown?	A list shall be available with the commercial brand names of PPPs (including their active ingredient composition or beneficial organisms) that are authorized on crops being, or which have been, grown on the farm under the IDA module within the last 12 months.	Major Must
7.1.2	Does the producer use only those PPPs that are currently authorized for the target crop in the country of use (i.e., where such an official registration scheme exists)?	All the PPPs applied to the crop are suitable and can be justified (according to label recommendations or official registration body publication) for the pest, disease, weed or target of the PPP intervention. If the producer uses an off-label PPP, there shall be evidence of official approval for use of that PPP on that crop in that country. No N/A.	Major Must
7.1.3	Are the PPPs that have been applied appropriate for the target as recommended on the product label?	All the PPPs applied to the crop shall be suitable and justified (according to label recommendations or official registration body publication) for the pest, disease, weed, or other target of the PPP intervention. If the producer uses an off-label PPP, there shall be evidence of official approval for use of that PPP on that crop in that country. No N/A.	Major Must
IDA 4.1.1	Is the use of those PPPs listed as persistent organic pollutants in Annex A of the Stockholm Convention and those listed as extremely hazardous (class 1a) by the World Health Organization minimized?	It is possible to identify in the list (IDA 4.1.1) if a PPP has an active ingredient that is listed as persistent organic pollutant in Annex A of the Stockholm Convention and those listed as Extremely Hazardous WHO 1a, (The WHO recommended classification of pesticides by hazard, 2009). There is evidence that the use of these PPP is minimized. No N/A.	Recom.

Nº	Control Points	Compliance Criteria	Level
7.2	**Records of Plant Protection Product Applications**		
IDA 5.2.1	Are records of all PPP applications kept and digitally reported to GLOBALG.A.P. through a farm management software, and do they include the following minimum criteria: • Product category • Size of the area affected (in ha)? • Crop name and/or variety • Application location • Date and end time of application • Product trade name and active ingredient	All PPP applications, including: • Biopesticides • PPP treatments for in-house nursery propagation materials • Post-harvest treatments (The following information is recorded in all records of post-harvest biocide, wax, and PPP applications, including the lot or batch of harvested crop treated) The following PPP application records shall be digitally reported to GLOBALG.A.P. through a farm management software: • Product category according to the GLOBALG.A.P. product list • Size of the plot (in ha) where the PPP application was made • Crop and/or variety treated. No N/A • Geographical area, the name or reference of the farm, and the field, orchard, or greenhouse where the crop is located. No N/A • Exact dates (day/month/year) and end time of the application. The actual date (end date, if applied more than one day) of application shall be recorded. Producers need not record end times, but in these cases, it shall be considered that application was done at the end of the day recorded. This information shall be used to cross-check compliance with the pre-harvest intervals. No N/A. • Complete trade name (including formulation) and active ingredient or beneficial organism with scientific name. The active ingredient shall be recorded, or it shall be possible to connect the trade name information to the active ingredient. No N/A.	Major Must
7.2.4	Justification for application?	The name of the pest(s), disease(s), and/or weed(s) treated shall be documented in all PPP application records. If common names are used, they shall correspond to the names stated on the label. No N/A.	Major Must

Nº	Control Points	Compliance Criteria	Level
7.2.5	Product quantity applied?	All PPP application records shall specify the amount of product to be applied in weight or volume or the total quantity of water (or other carrier medium) and dose in g/l or internationally recognized measures for the PPP. No N/A.	Major Must
7.2.8	Is there written justification for the use of soil fumigants?	The justification shall include the location, date, active ingredient, amount, doses, method of application, and operator. The use of methyl bromide is not permitted. No N/A.	Major Must
7.2.9	Are records available for all other substances, including those that are made on-farm, used on crops and/or soil that are not covered under the sections on fertilizer and PPPs?	If preparations such as plant strengtheners, soil conditioners, or any other similar substances (home-made or purchased) are used on certified crops, records shall be available. These records shall include the name of the substance (e.g., plant from which it derives), the crop, the field, the date, and the amount applied. In case of purchased products, also the trade or commercial name, if applicable, and the active substance or ingredient, or the main source (e.g., plants, algae, mineral, etc.) shall be recorded. Records of these materials shall contain information about the ingredients where available.	Major Must
8	**POST-HARVEST TREATMENTS** (N/A IF NO POST-HARVEST TREATMENT IS APPLIED)		
8.2	Does the producer use only those PPPs that are officially registered in the country of use and approved for post-harvest use on the harvested crop being protected?	All post-harvest PPPs used on harvested crops shall be officially registered or permitted by the appropriate governmental organization in the country of application, approved for use in the country of application, and approved for use on the harvested crops to which they are applied as indicated on the biocides and PPPs' labels. Where no official registration scheme exists, refer to the localg.a.p. guideline in Annex and the "FAO International Code of Conduct on the Distribution and Use of Pesticides".	Major Must
8.3	Is an up-to-date list maintained of post-harvest PPPs that are used, and approved for use, on crops being grown?	An up-to-date documented list that takes into account any changes in local and national PPP legislation shall be available for the commercial brand names of PPPs (including their active ingredient composition, or beneficial organisms) that have been or are being used on crops grown on the farm under localg.a.p. PFA within the last 6 months. No N/A.	Major Must

Nº	Control Points	Compliance Criteria	Level
IDA 6	**ENERGY**		
IDA 6.1	**Records of Energy Use**		
IDA 6.1.1	Are records of on-farm energy use per source kept and digitally reported to GLOBALG.A.P. through a farm management software?	Records of energy use exist (e.g., invoices where energy consumption is detailed; for small producers estimates of energy use are valid), including electricity, fossil fuels, and other sources and are digitally reported to GLOBALG.A.P. through a farm management software. Producer records distinguish amount of energy in kWh from each source and which sources are renewable and which are non-renewable. The producer keeps track of its overall energy use at farm in kWh. The producer is aware of where and how energy is consumed on the farm and through farming practices.	Major Must