

MPS-ABC Certification Standard

Method and Ground Rules

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In case of doubt or ambiguity, the Dutch version of the certification standard prevails.

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The MPS-ABC Certification Standard consists of the following documents:

- MPS-ABC Certification Standard
- **Method and Ground Rules**
- Terms and Definitions
- MPS Governance
- MPS Active Substances Black List

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1. The MPS-ABC process

1.1 The MPS-ABC certification process

In the MPS-ABC certification process described below, a distinction is made between starting MPS-ABC participants and certified MPS-ABC participants.

1.1.1 Certificate vs. qualification

The MPS-ABC certificate is the proof that a grower meets all the requirements in the applicable version of the MPS-ABC certification standard.

The MPS-ABC qualification is the award of the number of points and associated A+, A, B or C label.

The MPS-ABC certificate and the associated qualification are always issued simultaneously. Therefore, a participant cannot have a qualification if they have not been issued with a certificate, or vice versa. To reflect the current status of a grower's performance, the qualification is calculated four times per year. An MPS-ABC certificate is therefore valid for a maximum of four MPS periods.

1.1.2 Starting MPS-ABC participants

Before being able to start with MPS-ABC, the participant must apply to the Certification Body (CB) for a quotation. After signing the quotation and the tripartite agreement, the participant gains access to the MPS-ABC record-keeping system. The certification process for a starting MPS-ABC participant is shown in Figure 1.

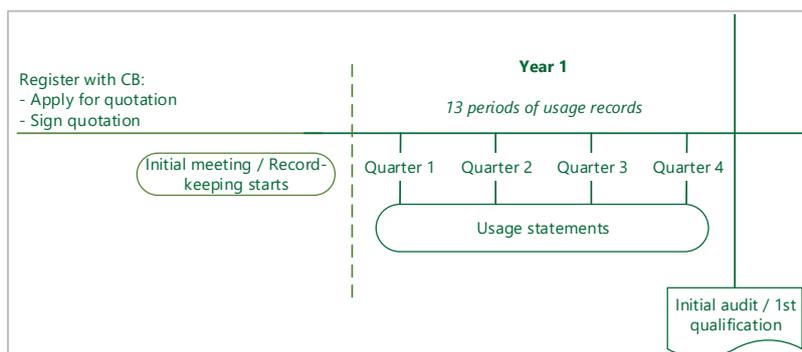


Figure 1: Certification process for starting MPS-ABC participant

During the initial meeting with an MPS group employee, the participant is given an explanation of how the record-keeping system works and starts filling in the basic settings. Once the participant has configured all the basic settings in the record-keeping environment, it can start keeping usage records.

Record-keeping

To qualify for an MPS-ABC certificate and the associated qualification, a starting participant must keep usage records for thirteen periods (one year). These records must meet the requirements set out in 'MPS-ABC Certification Standard – Certification Criteria'. The options for recording usage retrospectively in order to shorten the lead time for obtaining certification are explained in section 1.3 of this document. If a company has multiple sites, each site will need to be added to the system with a separate set of sub-records.

Statements

At the end of each MPS quarter the participant will receive a digital statement in PDF format. This gives the participant an overview of its records and usages compared with the relevant standards and the associated consequences for its future qualification status.

Initial audit and sampling

Once the participant has kept records for between ten and sixteen consecutive periods, the initial audit can take place. The exact time of the initial audit is agreed with the CB. The purpose of this initial audit is to verify whether the participant meets all the criteria set out in 'MPS-ABC Certification Standard – Certification Criteria'. In addition, a sample is taken at the company during the initial audit. The results of the initial audit form the basis for the CB's certification decision.

Issue of MPS-ABC certificate and qualification

The first MPS-ABC Certificate including the calculated qualification status is awarded to the participant once it has kept records for at least 13 periods (4 consecutive MPS-quarters) and has passed the initial audit with a positive certification decision and a positive sample analysis result. MPS provides the necessary resources for calculating the qualification; these are used under the responsibility of the CB.

1.1.3 Certified MPS-ABC participants

The audit and certification process for certified participants is shown in Figure 2.

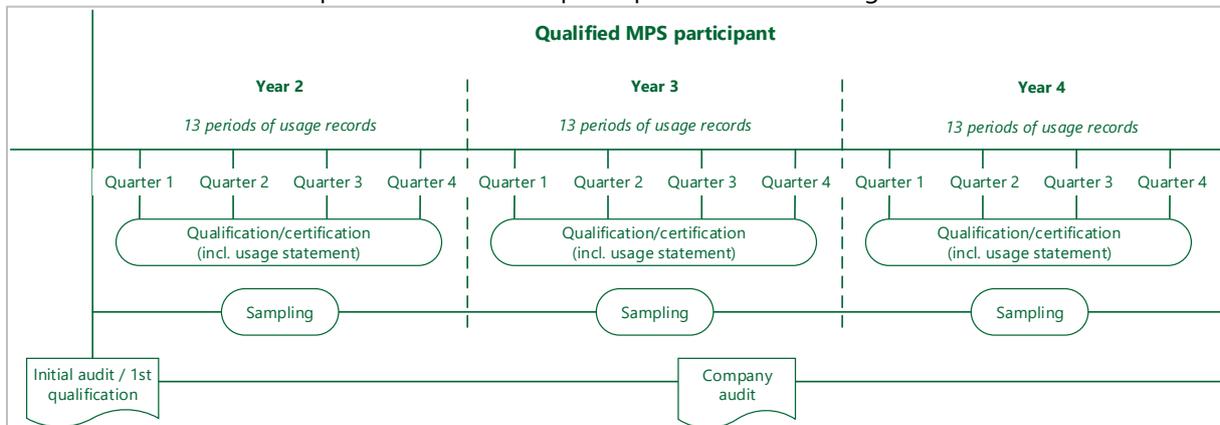


Figure 2: Audit and certification process for certified MPS-ABC participants

Record-keeping

In order to retain the MPS-ABC Certificate and the associated qualification status, the participant must continue to meet the record-keeping requirements set out in 'MPS-ABC Certification Standard – Certification Criteria'. A certificate and associated qualification can only be issued once 13 consecutive periods have been logged.

Periodic checks on record-keeping

The CB carries out periodic checks on record-keeping. MPS provides the resources by which a fully automated check is carried out under the responsibility of the CB to establish whether 13 consecutive periods have been logged. A check is also carried out on records of agents on the MPS Black List. A more detailed explanation of this process can be found in chapter 1.2.1. If the company passes this periodic check, a new qualification can be calculated.

During the periodic check on record-keeping, the CB is furthermore entitled to request additional information from the companies based on logged data on a random basis in order to carry out interim and remote assessments of their record-keeping.

Sampling

Depending on the Reliability Index score (see section 6 for more information), but at least once per year, the crop(s) of each qualified participant are sampled. One sample is taken, regardless of the number of crops. This sample is used to check the usage records for completeness and for the

presence of agents that are not authorised in the country of use and/or that appear on the MPS Black List. Sampling and the assessment of samples are described in more detail in section 1.2.2.

Company audit

Depending on the Reliability Index score (see section 5), but at least once every three years, a company audit is carried out at the participant's site(s). The purpose of this audit is to verify whether the participant meets all the criteria set out in 'MPS-ABC Certification Standard – Certification Criteria'. Depending on the outcome of the company audit, the auditor may make corrections to the recorded data. These corrections may impact on the participant's qualification.

The company audit results in a certification decision by the CB. A positive certification decision proves that the participant has met all the requirements of the standard that allow certificates valid for a maximum of one MPS quarter to be issued in principle over a period of three years.

Issue of certificate plus qualification

At the end of each MPS quarter, it is established whether a new certificate can be issued, and the associated qualification is recalculated based on the records. MPS provides the necessary resources for calculating the qualification; these are used under the responsibility of the CB. The requirements for reissuing a certificate are as follows:

- The company has a positive certificate decision dating back no more than three years.
- The company has passed the periodic record-keeping check and an A+, A, B or C qualification has been calculated.
- The most recent sample analysis dates from the current or previous calendar year.
- There are no pending sanctions.

1.1.4 Qualification statuses

Each participant's qualification status is calculated four times per year and adjusted where necessary. The various qualification statuses in MPS-ABC are shown in Table 1.

Situation	Qualification status
Records up to date, all basic requirements met, initial audit passed, etc.	A+/A/B/C
Incomplete records between two qualification dates	A+/A/B/C
Incomplete records at the time of qualification	NQ
Starting participant; has not yet kept records for thirteen consecutive MPS periods and/or has not yet passed audit	Participant
Sanctioned (e.g. use of Black List agent, repeated infringement, etc.)	NQ

Table 1: MPS-ABC qualification statuses

The company qualification A+, A, B or C is determined by comparing the participant's actual usage data in the environmental themes of crop protection, fertilisers, energy, waste and water with the individual company standard. More information on this calculation can be found in section 2.

An NQ status means that the participant does not meet the requirements of the certification standard and will therefore not be in possession of a certificate. This will be visible as NQ in the various portals and communications in which the certification status and qualifications are shown.

1.2 Checks of records

During the company audits the CB checks whether the records match the accounts in accordance with the requirements of the certification standard.

Given the importance of correct and complete record-keeping for the qualification calculation, the usage records are checked additionally via:

- 1) Checks via the records: When the records are checked by the CB, it is also checked that the agents recorded are authorised for use in the country of use and do not appear on the MPS Black List.
- 2) Checking via sampling: During sampling it is checked by the CB whether the records are complete and whether any agents have been used that are not authorised in the country of use or appear on the MPS Black List. Active substances found in the sample analysis must also be found in the usage records.

1.2.1 Checks via the records

Once the participant has recorded a crop protection agent, it is checked that the active substances are authorised for use in the country of use and do not appear on the MPS Black List. If an active substance is found that is not authorised in the country of use or appears on the MPS Black List, the participant receives a notification. It then has five working days to respond.

If the participant does not respond during this time, it is assumed that the substance has been used and a sanction is imposed in accordance with the sanction policy set out in 'MPS-ABC Certification Standard – Certification Criteria'.

If the participant responds within the set time stating that the active substance has been used and there is no evidence of a record-keeping error, a sanction is imposed in accordance with the sanction policy set out in 'MPS-ABC Certification Standard – Certification Criteria'. If the participant claims that the active substance has not been used, a more in-depth investigation can be carried out on behalf of the CB to establish how the active substance came to appear in the records. MPS can contribute to this investigation and present the results to the CB. The ultimate decision as to whether or not to impose a sanction and on what grounds lies with the CB.

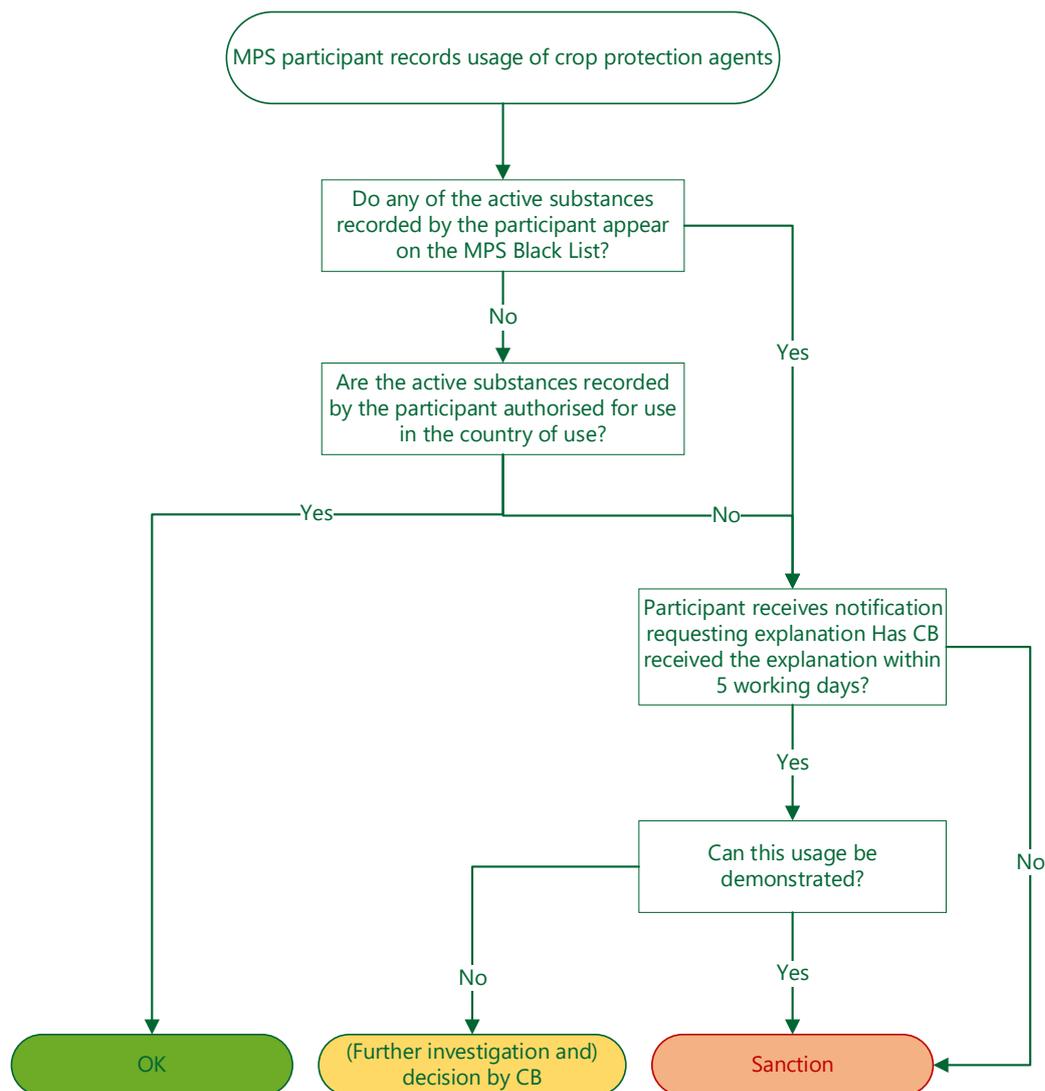


Figure 3: Process for checking crop protection usage records

1.2.2 Checking via sampling

A sample is taken to check whether all the active substances used appear in the usage records. In addition, it is checked whether any active substances that do not appear in the usage records are authorised in the country of use and do not appear on the MPS Black List. The complete sampling and analysis process is illustrated in Figure 4.

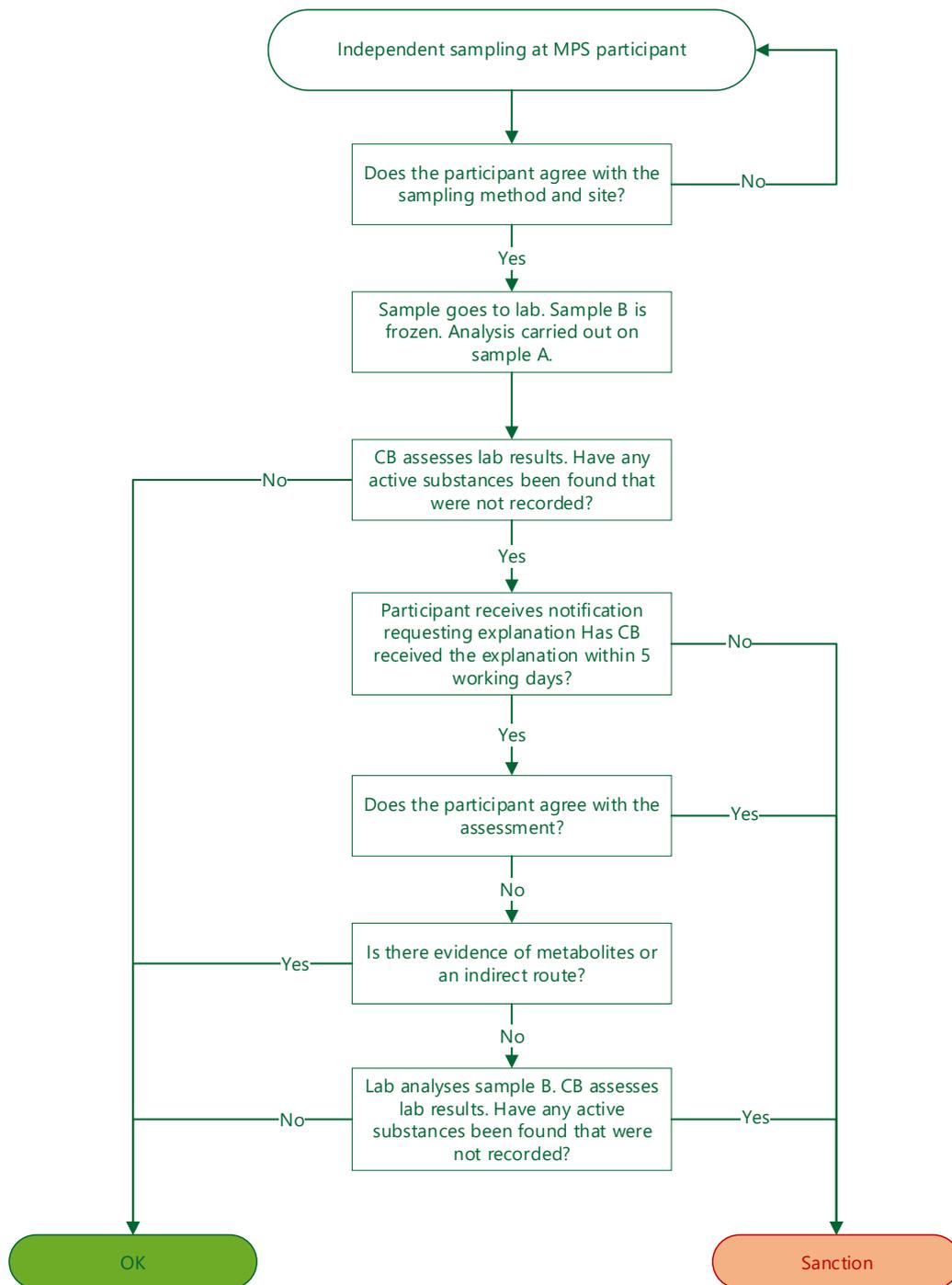


Figure 4: Sampling and analysis process

Independent sampling:

Sampling is announced up to five working days in advance but can also take place unannounced. Samples are taken independently by a laboratory employee, an auditor or a representative of the CB. In principle, the sample is taken from the primary crop and consists of at least 250 g of plant material. During sampling, measures are taken to prevent contamination.

Analysis and processing:

The samples are analysed by ISO 17025 accredited laboratories. Within MPS-ABC, the limit value for the assessment of residue levels found is 0.1 mg/kg. Once MPS has assessed the analysis, the participant is notified of the results. It then has five working days to respond. If the CB does not hear from the participant, we assume that it agrees with the findings. If the participant does not agree, the CB will ascertain whether the results were caused by metabolites (substances created as a result of the use of a parent substance) or via a demonstrable indirect route (in which active substances were transferred onto the crops as a result of external influences). This latter case must be substantiated with samplings, reports etc. If this is not the case, a new analysis will be carried out on sample B. If sample B is analysed by the same laboratory, the outcome of sample B will be decisive. If this analysis is carried out by another laboratory, the average of the two outcomes will be decisive. If it is ascertained that either the laboratory or the CB has made a mistake, the cost of the analysis of sample B will be borne by the CB, otherwise the additional costs will be charged to the participant.

If all substances found during sampling are listed in the participant's usage records, this will have no consequences for its ABC qualification status. If substances are found that are not listed in the participant's usage records and there is evidence that these substances have been used, the consequences for the participant's qualification status (see also section 1.1.3) and RI score (see also section 5) will be established by the CB in accordance with the sanction policy set out in 'MPS-ABC Certification Standard – Certification Criteria'.

1.3 Retrospective record-keeping

The active record-keeping period within MPS-ABC covers a total of seven MPS periods consisting of the current period and the six preceding ones. During this active record-keeping period, it is permissible to correct records and record usage retrospectively.

1.3.1 Recording usage retrospectively for starting MPS-ABC participants

In practice, this means that starting MPS-ABC participants may immediately record seven MPS periods on commencement of their participation in MPS-ABC. This enables new participants to gain an MPS-ABC qualification more quickly.

To make use of this option, certain important requirements must be met:

- 1) The starting participant must have historic usage data available.
- 2) An appointment for the initial audit must be made with the CB in good time.
- 3) The invoice for the period for which data is recorded retrospectively must have been paid.
- 4) The record-keeping commencement date must fall on the first day of an MPS quarter.

1.3.2 Retrospective usage recording for qualified MPS-ABC participants

Under this arrangement, qualified participants can record and/or correct usage data for up to seven MPS periods retrospectively. This excludes any periods that have already been audited.

If a participant has not recorded a preceding period on time even though it falls outside the active record-keeping period, its qualification status is revoked and the participant's status reverts to 'starting participant'. To have its qualification reinstated, the participant must comply with the requirements for an initial audit and complete it successfully.

2. Standards, points standards and country groups

Within MPS-ABC, a maximum of 110 points can be awarded to the participant based on their recorded usage data. These points are spread over the following five environmental themes:

- Crop protection
- Fertilisers
- Energy
- Water
- Waste.

More details of each environmental theme can be found in section 3.

2.1 Points standards and country groups

Within MPS-ABC, a participant can obtain up to 110 points. The number of points obtained is associated with a qualification status. The link between the number of points obtained and the corresponding qualification statuses can be seen in Figure 5.

Participant <10 points	C (10 – 54,9 points)	B (55 - 69,9 points)	A (70 – 110 points)	A+ (≥ 90 points*)
* Additional requirements for MPS A+ status: <ul style="list-style-type: none">- Total number of points: ≥ 90 points- Crop protection: > 85% of max. score- Fertilisers: > 75% of max. score- Energy: > 75% of max. score				

Figure 5: Qualification statuses and corresponding numbers of points

The awarding of points is based on five different country standards. These standards take account of site-specific factors. Depending on the country (or countries) in which the participant is based and the conditions under which cultivation takes place (protected/outdoors), an individual points standard is calculated based on one or more country standards. The country standards and the countries to which they apply can be found in Appendix 1.

2.2 Standards

The points for each environmental theme are calculated within an upper and lower limit, expressed in usage per hectare. Points are distributed between the upper and lower limits on a linear basis, with usage at or above the upper limit awarded 0 points and usage at or below the lower limit awarded the maximum number of points. This excludes the use of crop protection agents classed as red and orange (see also section 5). Usage of these agents that exceeds the upper limit is assigned negative points in these sub-themes, calculated according to the same linear correlation as the spread between the lower and upper limits. However, the total score for crop protection can never be less than 0.

The standards are determined based on environmental clusters. An environmental cluster consists of crops cultivated under similar circumstances and with similar pest/disease susceptibility, temperature requirements and use of fertilisers. Each environmental cluster has its own standards for crop protection, fertilisers and energy. The standards set for each environmental cluster are influenced by various factors, including:

- Usage by the 20% best performing participants (for setting the lower limit)
- Usage by the 20% worst performing participants (for setting the upper limit)
- Spread of participants between qualifications A+, A, B and C

The standards are recalculated regularly. The collective performances in each environmental cluster determine the new upper and lower limits per hectare. As a result, it may be the case that, for example, usage that originally guaranteed qualification status A will lead to qualification status B after a review of the standard. Participants are always informed about changes to the standards.

An individual standard is calculated for each participant and each environmental theme based on the recorded areas per crop. This means that the participant always has a picture of its usage compared with companies producing the same products in similar circumstances. The standards are reviewed annually and adjusted to reflect the usages per environmental cluster, which enables MPS-ABC to constantly encourage participants to make their operations more sustainable.

The current standards are only available to MPS-ABC participants and can be found in the customer portal.

3. Environmental themes

MPS-ABC is a system of company record-keeping in five environmental themes: crop protection, fertilisers, energy, waste and water. The criteria that the records kept in each environmental theme must meet are set out in 'MPS-ABC Certification Standard – Certification Criteria'. A more detailed explanation and interpretation of the environmental themes can be found below.

3.1 Crop protection

In the environmental theme of crop protection, the participant is awarded points based on its usage records. Records must be kept of all agents used during the cultivation, storage and processing of the product by the company. This also includes agents used by a third party such as a subcontractor. Within MPS-ABC, records of the following agents must be kept:

- chemical crop protection agents (insecticides, acaricides, fungicides, herbicides, nematocides, etc.)
- growth regulators
- seed treatments
- biological agents and natural predators
- wetting agents
- adhesion agents
- pre-treatment agents
- cleaning products and disinfectants
- products used to disinfect plant material
- products used to disinfect greenhouses, seed trays, containers, substrates, etc.
- experimental use of new agents
- agents used to disinfect bulbs
- agents in potting soil
- pest control agents
- plant invigorators
- shading products (coatings and coating removers).

Records must also be kept of agents used on grass verges around greenhouses, uncultivated areas and in vegetable gardens, for example. Records do not need to be kept of products of natural origin originating from the company itself and medicines used on livestock.

Local authorisations and legislation governing the use of crop protection agents must be complied with at all times. An up-to-date list of authorised crop protection agents must be available at every production site. During a company audit, an auditor can carry out a spot check on this.

3.2 Fertilisers

In the environmental theme of fertilisers, the participant is awarded points based on its usage records. Records must be kept of all fertilisers used during the cultivation, storage and processing of the product by the company. This also includes fertilisers used by a third party such as a subcontractor. Within MPS-ABC, records of the following fertilisers must be kept:

- solid fertilisers
- liquid fertilisers
- inorganic fertilisers
- organic fertilisers
- organic soil improvers
- biostimulants/plant invigorators
- trace elements

- base dressings
- compound fertilisers
- fertilisers containing no NO₃, NH₄ or P205
- fertilisers in potting soil/substrate
- fertilisers used for forcing in frames
- experimental use of new fertilisers

Records do not need to be kept of the following:

- Products of natural origin that originate from the company itself or from the company's plant material (such as compost);
- Compost made at another location using the company's plant material (the company must be able to prove this);
- Organic substrates with no added fertilisers: substrate used as a growing medium (base substrate) separate from the soil (in pots, bags, gutters, etc.).

3.3 Energy

In the environmental theme of energy, the participant is awarded points based on its usage records. Records must be kept of all the energy consumed during the cultivation, storage and processing of the product. Within MPS-ABC, a distinction is made between the following forms of energy usage:

- gas
- electricity
- green electricity (generated from non-fossil fuels)
- energy from biomass or other materials of biological origin
- returned energy
- heat supplied by third parties
- all other fuels.

Total gas usage includes usage for offices, storage, packing facilities, homes, steaming and crate heating operations. Records must also be kept of gas usage for non-horticultural operations, unless the participant can demonstrate that the gas has been used for non-horticultural operations by means of separate meters and/or statements.

Records must also be kept of the conversion factor and the calorific value of the gas used.

Total electricity usage includes usage for offices, storage, packing facilities and homes. Records must also be kept of electricity usage for non-horticultural operations, unless the participant can demonstrate that the electricity has been used for non-horticultural operations by means of separate meters and/or statements.

Records do not need to be kept for energy used for internal and external transport.

The energy standard within MPS-ABC is based on the use of fossil (grey) energy. Points are not assigned directly for the use of sustainable energy, although this does have an indirect positive impact on the number of points as it leads to a reduction in the use of grey energy.

3.4 Water

Depending on the points standard relevant to the participant, points are awarded for the environmental theme of water. Points are obtained by applying a number of measures. Some of these measures are covered in the General Information Form. The others are contained in the usage records.

In areas where water sources are under pressure, the producer must be aware of this and must take account of the interests of other users.

3.4.1 General Information Form

The presence and availability of water differs greatly from region to region. For this reason, the questions and points assigned for water usage differ depending on the points standard. Below is a list of the subjects applicable to each points standard:

Collecting rainwater

Applicable solely to points standards II, III and IV.

Does not apply to outdoor cultivation; in this case, 'yes' may be entered on the information form. 'Yes' may be entered on the form if rainwater from at least 95% of the total greenhouses area is collected and reused.

Collecting leakage water during preparation of chemicals

Applicable solely to points standards II, III and V.

Drip irrigation or recirculation

Applicable solely to points standards II, III, IV and V.

'Yes' may be entered on the form if drip irrigation is used on at least 95% of the total area under cultivation.

Automatic watering system (system without user intervention)

Applicable solely to points standard IV.

3.4.2 Usage records

Discharged residual drain water/drainage

Quantity of water discharged to surface water or sewers (m³).

Reused drain water

Volume of collected drain water that is reused (m³).

Records of irrigation usage (compulsory for all participants)

Records must be kept of the quantity of water used under human influence, including the source from which the water is obtained.

3.5 Waste

The participant can be awarded points for the environmental theme of waste by implementing a number of measures. The participant can define the extent to which different waste streams are disposed of responsibly by using the site-level General Information Form. A distinction is made between the following waste streams:

- organic waste
- paper
- plastic
- chemical waste.

Organic waste

Organic waste consists of plant residues, potting compost, peat blocks, etc. Responsible processing and disposal of organic waste is understood to mean the separation and/or composting of such waste.

Composting can be carried out by the company itself or by a composting company. If it is done by the company itself, there must be an evident composting site on the company's premises. If a composting company is used, there must be a container from the company on the premises and/or statements must be included in the accounts.

Separation of organic waste can be carried out by the company itself or by a waste management company. If a waste management company is used, a statement of separate treatment must be present at the company.

Incineration of all or part of the organic material is accepted as reuse provided that the energy released is used for heating purposes (greenhouse, homes, canteen, etc.) or for the generation of electricity.

If at least 95% of the organic waste is composted or reused, the participant may state on the General Information Form that its organic waste is processed responsibly.

Paper

Paper is used as an umbrella term for all paper and cardboard waste. Responsible processing and disposal of paper is understood to mean the separation, reuse or burying of paper and cardboard.

Incineration of paper is accepted as reuse provided that the energy released is used for heating purposes (greenhouse, homes, canteen, etc.) or for the generation of electricity.

If at least 95% of the paper is reused or buried, the participant may state on the General Information Form that its paper is processed responsibly.

Plastic

Plastic and plastic waste consists of insulation material, sleeves, screening material, bubble film and paving film, plastic pipes, pots, fertiliser bags, drip-irrigation pipes, plastic waste from the canteen, etc. Responsible processing and disposal of plastic is understood to mean the separation, reuse or burying of plastic.

If at least 95% of the plastic and plastic waste is reused or recycled, the participant may state on the General Information Form that its plastic is processed responsibly.

Chemical waste

Chemical waste consists of batteries, unused crop protection agents that have passed their use-by date, packaging materials and residues of crop protection agents, other chemicals, fertilisers and pre-treatment agents (including silver thiosulphate). Responsible processing of chemical waste is understood as a method that has no impact on the environment, flora or fauna, groundwater or surface water, soil or public health.

The burying, collection and reuse of chemical waste is not permitted. Rinsed empty containers must be handed in separately for responsible processing. Where empty packaging is stored temporarily, this must be done in controlled circumstances. Chemical waste may only be incinerated in an incinerator.

4. Crop schedule

When the participant joins the standard, it records the crop schedule for each set of sub-records in the ABC record-keeping environment. The total crop schedule consists of the plots and crops in the set of sub-records and the association between crops and plots.

4.1 Plots

A plot is a physically separate growing area at the location, on which one or more crops are grown. A set of sub-records can cover one or multiple plots; it is up to the participant to determine the desired level of detail. When a plot is set up, the participant must also specify whether it contains one or two crop layers.

Records do not need to be kept of areas in the cold store for the storage of harvested flowers and the sale of finished/deliverable products, nor of areas for processing, storage, canteens and accommodation.

4.2 Crops

In the record-keeping environment, the participant defines which crops are present in the sub-records. Current and future crops can be included in this list.

Besides crops, the following items are recorded in the usage records:

- Bulb disinfection for third parties
- Forcing in frames
- Use of hot/cold stores (Storage, preparation, etc. of plant material in both cold and hot areas involving a separate cultivation phase in which a treatment takes place)
- Starting material/raising (Parent plants, cuttings, tissue culture and young plants can be recorded under 'starting material'. This excludes cuttings planted in the consumer pot and not yet fully-grown material as well as bulb cultivation.)
- Mobile greenhouses

4.3 Association between crops and plots

Associating crops with the plots set up enables the underlying system to ascertain which environmental clusters apply. This is a background process that forms input for defining the individual usage standard.

4.4 Local record-keeping

Crop protection agents are sometimes used on just one part of a plot. For this purpose, a plot can be subdivided into sub-plots. In this case, the maximum frequency given on the product label must be adhered to in each sub-plot. MPS-ABC does not check the maximum frequency of each agent applied, but the MPS-ABC usage record system can be used to demonstrate to government authorities that applications are within the maximum frequency.

It is possible to keep separate spraying records by subdividing plots into sub-plots or bays and setting them up as such in the MPS-ABC record-keeping system.

5. Integrated Pest Management Plan (IPM plan)

The aim of Integrated Pest Management is to achieve a sustainable approach to weeds, fungi, pests and other diseases.

The idea behind a sustainable approach is to aim for prevention rather than control, thereby limiting or avoiding the use of chemicals in order to protect the environment. If it is necessary to use chemicals, the use of biocides and the risks to non-target organisms, animals and humans must be minimised.

An IPM plan takes into consideration all available techniques and alternatives for developing a sustainable pest prevention and control strategy in an economically viable way.

An IPM plan covers at least the following elements:

1. A description of the pests (including insects, diseases and weeds) of economic relevance to each crop or crop group.

By 'economic relevance' we mean pests that have a demonstrable impact on the crop. The following must be taken into account:

- The nature, extent and source of the pests
- The risks to humans, animals and the environment
- Economic impact of potentially lower yields on production or crop quality
- Risks relating to the further spread of the pest
- Nuisance not limited to one particular plot.

If you grow multiple crops affected by different types of pests, you must complete this for each crop. If the crops fall within the same group and are affected by the same pests, a description of the pests affecting each crop group will suffice.

2. For each pest, illustrations should be provided to aid identification of the pests, including symptoms in crops affected, conditions under which the pest can spread rapidly and the economic threshold for taking measures.

Add a photograph of the pests and the crop symptoms here, with a brief description of the pest. For each pest, also indicate what insects, fungi, nematodes, weeds or other pest they are. In addition, indicate the conditions (temperature, humidity etc) under which the pest can spread rapidly and your economic threshold for taking measures. An example of an economic threshold is the point at which the value of the destroyed crop is higher than the cost of controlling the pest.

You can take your own photographs, but you can also refer to tools, labels or posters you use provided these can be shown at the audit.

3. Description of possible and implemented preventive measures.

What preventive (non-chemical and chemical) measures can you or have you taken to combat these problems?

4. Description of pest monitoring methods and records of checks carried out.

What monitoring methods are used? For example: scouting, using tools and monitoring crop conditions.

5. Control measures taken, including reasons

Provide a description of the control measures you have taken. For example:

- Promptly removing piles of waste
- Cleaning sprayers
- Choice of seed and resistant varieties
- Thoroughly cleaning the greenhouse at crop changeover
- Disinfecting recirculated water
- Using disinfection tanks
- Using gauze to keep insects out (or in)
- Disinfecting secateurs and knives
- Steaming soil

6. Description of measures to reduce the development of resistance.

For example, a description of:

- Maximising the efficiency of pest control
- A minimum control frequency
- Alternating agents from different resistance groups.

6. Reliability index (RI)

Within MPS-ABC, a certificate is issued to the participant and a qualification is awarded based on the usage data entered by the participant. High reliability in the usage records is a key starting point for providing the market with honest, high-quality information. To achieve this, MPS works with a reliability index (RI), which facilitates the conducting of additional checks on companies with lower reliability via sampling and company audits.

6.1 Reliability score

Participants' reliability scores (RI scores) are expressed as a percentage. Only discrepancies that say something about a participant's reliability will lead to points being deducted on the RI. For example, a participant that has used a blacklisted agent and has recorded it in its usage records will be sanctioned, but this will not affect its RI score. If sampling reveals that a participant has used a blacklisted agent that was not recorded in its usage records, this will lead to a sanction for the infringement as well as points being deducted and therefore a lower RI score.

The MPS-ABC Reliability Index has three classifications: 'high', 'medium' and 'low'. The consequences for the number of samplings and company audits performed for each classification are shown in Table 2.

RI classification	High	Medium	Low
RI score	>75%	50-75%	<50%
# samplings	1x per year	2x per year	2x per year
# company audits	1x every 3 years	1x every 3 years	1x per year
# desk audits	4x per year	4x per year	4x per year

Table 2: RI classifications and consequences for audits and sampling

The additional samplings and audits required for an RI classification of 'medium' or 'low' are charged to the participant. These costs are added to the annual invoice.

The CB keeps records of points deducted for each participant over the course of an entire year. The times when deducted points can be logged are as follows:

- 1) At the time of qualification, when a check is made to ensure the records are complete. This check always runs from period 11 to the time of qualification and covers up to 13 periods.
- 2) After an audit, depending on the audit results.
- 3) After sampling, depending on the analysis results.

The RI classification for the subsequent calendar year is determined around 1 November based on the points deducted between period 11 of the previous calendar year and period 10 of the current calendar year. The following formula is used for this:

$$100\% - \text{points deducted (\% points)} = \text{RI score}$$

This RI score is fixed for the whole year and determines whether a participant falls within the category 'high', 'medium' or 'low'. The classification is valid from 1 January of the following year and affects the number of company audits and samplings. Deducted points are accumulated over the period from 1 November up to and including 31 October. Around 1 November, each participant's RI classification for the following year is determined and each participant begins with a clean slate in terms of deducted points.

6.2 Deducted points

The RI score is influenced by the following aspects:

- Incomplete and late record-keeping
- Audit data not matching records
- Samples not matching records.

A brief description of the various aspects can be found below. The actual effect on the RI score is described in the sanction policy.

Incomplete and late record-keeping

Failure to submit usage data in accordance with the record-keeping criteria will lead to points being deducted from the participant's RI score. At the end of every period, the number of incomplete or non-recorded periods is ascertained, with points being deducted for every incomplete period. As a result, it is possible that points may be deducted more than once in a given period.

Audit data not matching records

If it is discovered during an audit that the usage records do not match the accounts, this will be corrected by the auditor. Depending on the extent of the discrepancies, this will lead to points being deducted from the participant's RI score.

Samples not matching records

If sampling reveals the use of active substances that are not recorded in the usage records and the subsequent analysis shows that they have actually been used, this will lead to points being deducted from the participant's RI score.

7. MPS-MIND

Points are awarded for the environmental themes of crop protection and fertilisers based on the MPS-MIND method. MPS-MIND stands for MPS-Milieu INDicator (MPS Environmental Indicator). This states the risk posed by each active substance to the living environment in which it is used. The effect is determined on the one hand by the chemical properties of the substance, including toxicity, persistence and mobility, and on the other hand by site-specific factors such as its potential for spreading (distribution), environmental factors and the characteristics of the company.

7.1 Environmental zones

To enable site-specific properties to be taken into account, the MPS-MIND method has six environmental zones in which companies are categorised based on environmental factors. These environmental zones are explained in more detail in Appendix 2. The information in the site-level General Information Form is used to determine which environmental zone a set of sub-records falls under.

MPS MIND Information Form	
<i>To be completed for each set of sub-records</i>	
1. Distance from edge of plot to nearest surface water	Surface water also includes narrow ditches and trenches. For multiple plots, the plot closest to the surface water is applicable to the entire set of sub-records.
2. Percentage of protected cultivation	Area of protected cultivation divided by total recorded area for the set of sub-records
3. Have measures designed to restrict emissions been implemented at the boundaries of the plot adjacent to surface water?	Examples include catch crops, windbreaks (living or structural) and crop-free zones with a width of at least 3 metres.
4. Maximum slope due to hilly landscapes in this set of sub-records?	The most extreme slope of the plots at this location. MPS classifies terraces as 0%.
5. Is all the water recirculated (less than 3% residual drain water) on more than 95% of the area?	Applicable in particular to cultivation on substrate, cultivation on concrete floors, mobile benches, etc. In this context, 'drainage' is not understood as recirculation. 'Residual drain water' is understood as any form of water loss from the system, i.e. not only water discharged when changing the water.
6. Minimum depth of the groundwater table.	The plot with the highest groundwater table is determinative.
7. Lowest organic content of the soil.	The plot with the lowest organic soil content is determinative.
8. Average annual rainfall.	Applicable to points schemes II, III and IV.
9. Number of extremely dry months per year.	Applicable to points schemes II, III and IV. MPS understands 'dry' as less than 2% of the annual rainfall.
10. Average annual 24-hour temperature.	Applicable to points schemes II, III and IV.

Figure 6: MPS-MIND Information Form

7.2 MPS-MIND categories

Within MPS-MIND, the environmental impact per kilogram of each active substance is determined. This is done using public and reliable sources. Based on the environmental impact, an active substance is classified as 'red' (most harmful), 'orange' (less harmful) and 'green' (least harmful). It is possible for an agent to consist of multiple active substances with different colours. The classification of active substances takes the following factors into account:

1. Toxicity: Toxicity to humans, animals, birds, aquatic life, soil life and natural predators, also including long-term effects.
2. Persistence: The longer a substance persists, the greater the risk of harmful properties of the substance affecting humans and the environment. Rate of degradation and/or accumulation of the substance in the food chain affect this.
3. Potential for spreading: The risk of spreading via water and air.

Because these environmental factors are taken into account in the classification, it is possible for an active substance to be classed as 'red' in one environmental zone and 'orange' in another.

Besides red, orange and green substances, the MPS-MIND method also distinguishes 'white' substances. Biological agents and active substances used for pre-treatment (cleaning agents, plant invigorators etc) do not directly affect the participant's qualification and are therefore classed as 'white'. However, the use of biological agents often leads to a reduction in the use of green, orange and red agents, so they do have an indirect effect on the number of points achieved.

The latter category relates to blacklisted active substances. These active substances have a significant impact on humans, animals and the environment and are listed in the MPS Black List. Active substances listed in the MPS Black List may not be used. The MPS Black List applies to all participants, regardless of the country of participation and national regulations. The MPS Black List is a separate document forming part of the MPS-ABC Certification Standard.

8. MPS-OEX

MPS-OEX stands for MPS-Oppervlakte Efficiency IndeX (MPS Area Efficiency Index). The MPS-OEX applies to protected cultivation and offers companies using an intensive but efficient cultivation method broader scope in applying their company standards for fertiliser and energy usage. To ascertain whether a participant is eligible for this broader scope, data relating to growth and production-enhancing factors is recorded in the site-level General Information Form.

Growth and production-enhancing factors are understood to mean the following:

- Lighting: Light is the limiting factor for many crops, particularly in the winter months.
Increasing the amount of grow light results in more growth.
- CO₂ dosage: A higher CO₂ concentration increases yields.
- Substrate: Cultivating on substrate does not directly affect the crop as a growth factor but is a production-enhancing factor.

Crop protection, fertilisers, heat and water are regarded as general cultivation parameters and not as growth-enhancing.

MPS-OEX Information Form	
<i>To be completed for each set of sub-records</i>	
1. Use of gable screen	Are the gables screened when the greenhouse is lit at night, or are other adequate steps taken to prevent light nuisance from the gable?
2. Use of top screen	Is the greenhouse roof screened against light emissions when the greenhouse is lit overnight?
3. CO ₂ application	State here whether you use CO ₂ and if so, on what percentage of the greenhouse area.
4. Cultivation of cut flowers on substrate	Growers of pot plants etc. should enter 'no' here because pot plants are generally grown in potting compost or similar. This does not increase production. Switching from soil production to substrate (as may be the case with cut flowers) does increase production, so in this case enter 'yes' here.
5. Diffuse glass on greenhouse	Is the greenhouse entirely or partially covered in diffuse glass, and if so, what percentage of the greenhouse area?
6. Diffuse film on the film or glass greenhouse	Is the greenhouse entirely or partially covered in diffuse film, and if so, what percentage of the greenhouse area?
7. Diffuse screens in the greenhouse	State whether the greenhouse has a diffuse (mobile) screen, and if so, what percentage of the greenhouse area.
8. Diffuse coating on the greenhouse	State whether the greenhouse has a diffuse (temporary) coating, and if so, what percentage of the greenhouse area.

Figure 7: MPS-OEX Information Form

If a participant uses lighting, it can record the type of lamps it uses and the number of hours they are lit via its usage records.

MPS-OEX record keeping	
<i>To be completed for each set of sub-records</i>	
1. Records of brand name/type of lamp and associated code	A distinction is made between sodium and mercury lamps, different wattages and fitting types.
2. Records of number of lamps or (average) power consumption.	Number of lamps: number of lamps in the group that are switched on. Power consumption: average number of kW consumed by the whole lighting system in each period.
3. Records of the number of hours the lighting group was switched on in each period.	

Figure 8: MPS-OEX record-keeping

9. Rented and contract cultivation

9.1 Definitions

The MPS-ABC standard uses the following definitions:

- Sub-record: A separate set of records for recording usage by a particular part of the company. This could be another location, but also protected or outdoor cultivation or a particular crop. Where a company has several locations, at least one set of sub-records is kept per location.
- Location: An independent production location at another address (with its own heating facility, fertiliser system and/or stocks of crop protection agents or fertilisers etc.).

To distinguish clearly between rented and contract cultivation, the following definitions are used:

- Rented cultivation: The grower (tenant) rents a piece of land from a third party. The grower purchases and uses their own resources.
- Contract cultivation: The grower (contracting party) outsources part of their production to a contractor. The contractor purchases and uses the resources.

9.2 Own sites and sub-records

Every MPS-ABC participant has at least one sub-record in which they log their usages. Multiple sub-records must be created in the following circumstances:

- If a company has several production sites that each meet the definition of a 'location' in their own right. At least one set of sub-records is created per location. If a company carries out protected and outdoor cultivation at one location, this can be logged in one set of sub-records.
- If a participant carries out protected and outdoor cultivation at a production site in the Netherlands and uses the MPS UO record-keeping system, two sets of sub records must be created: one for protected cultivation for the purposes of the UO records, and one for outdoor cultivation. Multiple MPS sub-records can be linked to one UO number.
- A production site in a different country from the main site must always have a separate set of sub-records.

9.3 Creating additional sets of sub-records after starting record-keeping

If it becomes apparent during an initial meeting, audit or other form of customer contact/investigation that additional sets of sub-records will need to be created for MPS-ABC, this will have no retrospective implications for the participant. At this point, a task will be created for S&S to create an additional set of sub-records in the MPS-ABC record-keeping system. From that point on, the grower must record usages in the appropriate sub-records.

9.4 Sub-records for MPS-GAP and MPS-SQ

The sub-records created for MPS-ABC determine what appears on the MPS-GAP and MPS-SQ certificates. For the latter certificates, it is not possible to create more or other sets of sub-records than those for MPS-ABC. When a new set of sub-records is created at the request of an MPS-GAP or MPS-SQ participant, it must always be checked that the above requirements for sub-records are met. This ensures that the sub-records for MPS-GAP and MPS-SQ will always match the MPS-ABC sub-records exactly.

9.5 Sub-records for rented cultivation

A separate set of sub-records is created if the rental site meets the definition of a 'location'. In this case, the set of sub-records is identified as 'rental site' in AFAS and the rental site is visited during a company audit. The tenant is at all times responsible for logging usages at the rental site. The option to log standard usage has therefore been dropped. In addition, there will no longer be a distinction between rentals lasting longer or shorter than six months.

If the rental site does not meet the definition of a 'location', the surface area is added to the plot area in the sub-records of the main location.

9.6 Sub-records for contract cultivation

For contract cultivation, we distinguish between protected and outdoor contract cultivation sites. Sub-records for contract cultivation are always identified with the designation 'contract cultivation' in AFAS. Usages at the contract cultivation site are entered in the usage records every period. For this purpose, the contractor must in any event send the contracting party a usage overview every four weeks, and the contracting party is responsible for logging the usages in the MPS record-keeping environment. Contract cultivation sites are not visited during a company audit. During a company audit, the auditor must be shown details of the areas covered by contract cultivation as well as the usages submitted by the contractor. In addition, a sample is taken for each sub-record once every two years.

Protected contract cultivation sites

For protected contract cultivation sites, one set of sub-records is created for each site.

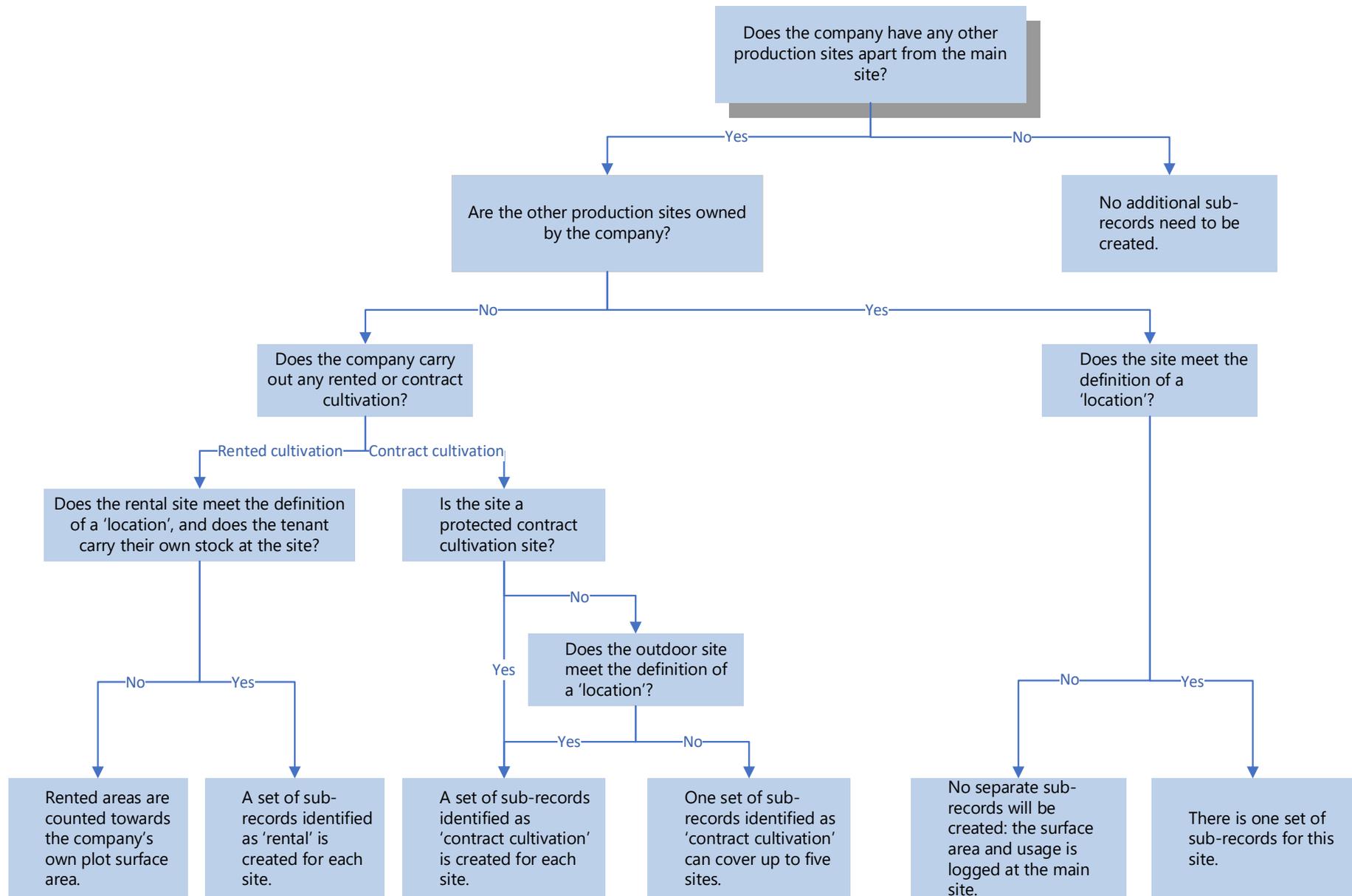
Outdoor contract cultivation sites

For outdoor contract cultivation sites, a set of sub-records is only created for each production site if it meets the definition of a 'location'.

For multiple sites that do not meet the definition of a 'location' (often individual plots for production of bulbs, trees and perennial plants in particular), it is possible to include multiple sites in one set of sub-records. In that case, a plot is created for each contractor, with the area representing the total of all plots covered by the contract concerned (see also the example on page 4). Sites for the two-yearly samplings are chosen at random.

To include multiple contract cultivation sites in one set of sub-records, the following requirements must be met:

- A set of sub-records can cover up to five contract cultivation sites.
- The contract cultivation sites in any one set of sub-records must be located in the same country.
- For each contract cultivation site, a plot must be created in the cultivation plan with a name that clearly indicates the name and main address of the contractor.



10. Closing the chain

Keeping records of usage of crop protection agents, fertilisers, energy, water and waste enables the environmental performance of the production carried out by the MPS-ABC participant to be mapped out and rated by means of a qualification. The purchase of plant material and the purchase and resale of additional or end products also plays a role in guaranteeing transparency and minimal environmental impact throughout the supply chain.

10.1 Purchase of plant material

When plant material is purchased as the starting point for production by the MPS-ABC participant, a distinction is made between 'starting material' and 'other plant material'.

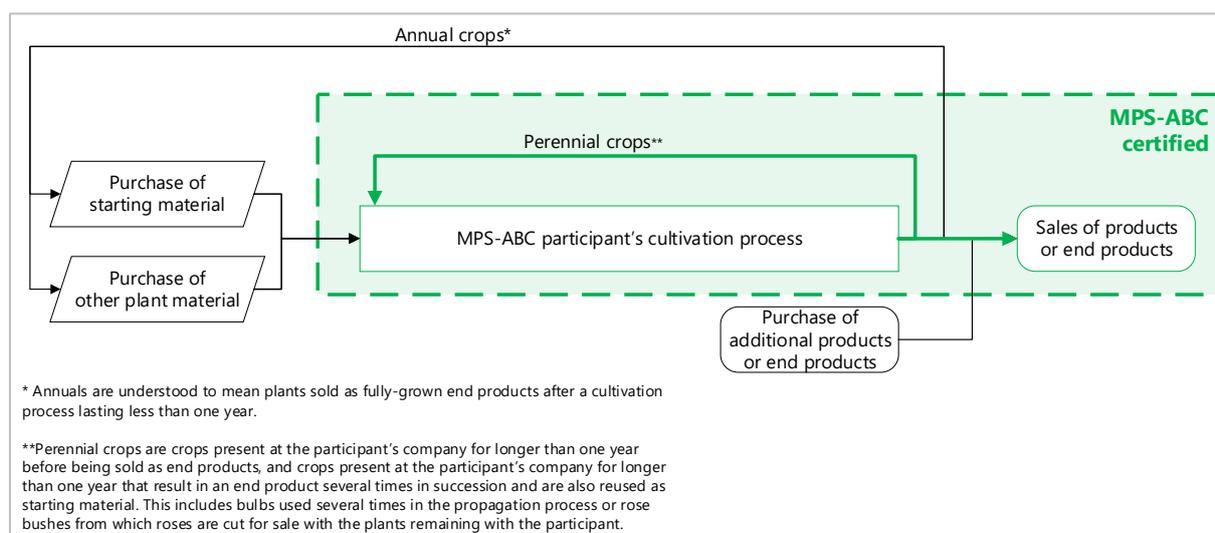


Figure 9: Purchase of plant material

10.1.1 Starting material

Starting material is understood to mean:

- Mother plants: Plants used for the production of cuttings and starting material.
- Cuttings: From rooting until the point when the cutting enters the production/growing phase (i.e. until it is potted up and/or planted out in its final production position at the company).
- Young plants (seed): From sowing and pricking out until the point when the cutting reaches the production/growing phase (i.e. until it is potted up and/or planted out in its final production position at the company).
- Tissue culture: From hardening off until the point when cutting enters the production/growing phase (i.e. until it is potted up and/or planted out in its final production position at the company).

Where a participant uses starting material that remains at the company until the end of the cultivation process, the end product may be sold under the MPS-ABC company qualification. End products include products that are sold at auction or to dealers as well as products sold to other breeders as 'other plant material'.

The use of MPS-ABC (or equivalent) certified starting material can attract up to 10 bonus points. The use of GLOBALG.A.P. (or equivalent) certified starting material can attract up to 5 bonus points. Purchased starting material is recorded as per the criteria set out in 'MPS-ABC Certification Standard – Certification Criteria'. Once perennial plants have been present at an MPS-ABC certified company for longer than one year, they may be designated as certified starting material.

10.1.2 Other plant material

'Other plant material' includes plants that have already undergone part of the cultivation process at another company. If these products can be proven to be qualified under MPS-ABC (or equivalent), the end products may be sold under the MPS-ABC company certificate. If 'other plant material' that is not qualified under MPS-ABC (or equivalent) has been cultivated by the participant for at least three months, the end products may be sold under the MPS-ABC qualification. If the cultivation cycle is shorter than three months, at least two-thirds of the cycle must have been carried out by the participating company.

10.2 Purchase and resale of additional products

Products purchased additionally at the end of the crop cycle to supplement the participant's own stocks must at least have the same MPS-ABC qualification as the participant itself in order to be able to be sold under the participant's MPS-ABC certificate. Therefore, a company with a B qualification must purchase MPS-B, A, or A+ certified material, while a participant with an A+ qualification may only purchase A+ certified products if it intends to sell the products under its own name and company certificate.

11. Group Label

The MPS Group Label enables a group of companies, such as a growers' association or a cooperative, to display one joint status in the form of a label. To be eligible for the MPS Group Label, participants must meet the requirements of the MPS Group Label and must sign the MPS Group Label participation agreement. For more information on the MPS Group Label, visit www.my-mps.com.

12. Appendix 1: Points standards and country groups

Points standard I

Applicable to the following countries:

Australia, Belgium, Denmark, Germany, UK, France, Ireland, Italy, the Netherlands, Norway, Poland, Russia, Turkey, Sweden and Switzerland.

		Protected cultivation	Outdoor cultivation
Crop protection		Max. 40 points	Max. 50 points
	Green	12 points	15 points
	Orange	16 points	20 points
	Red	12 points	15 points
Energy		Max. 30 points	Max. 10 points
Fertilisers		Max. 20 points	Max. 30 points
	Nitrogen	10 points	15 points
	Phosphorus	10 points	15 points
Waste		Max. 10 points	Max. 10 points
	Organic	6 points	6 points
	Paper/cardboard	2 points	2 points
	Plastic	2 points	2 points
Environmentally certified starting material		Max. 10 points	Max. 10 points
	MPS-ABC or equivalent	10 points	10 points
	Other certificates accepted under FSI Credible Record Keeping	5 points	5 points

Points standard II

Applicable to the following countries:

Canada, Greece, Portugal, Spain and USA.

		Protected cultivation	Outdoor cultivation
Crop protection		Max. 40 points	Max. 50 points
	Green	12 points	15 points
	Orange	16 points	20 points
	Red	12 points	15 points
Energy		Max. 20 points	Max. 10 points
Fertilisers		Max. 20 points	Max. 20 points
	Nitrogen	10 points	10 points
	Phosphorus	10 points	10 points
Waste		Max. 10 points	Max. 10 points
	Organic	3 points	3 points
	Paper/cardboard	2 points	2 points
	Plastic	2 points	2 points
	Chemical waste	3 points	3 points
Water		Max. 10 points	Max. 10 points
	Collection of rainwater	2 points	2 points
	Collection of leakage water during preparation of chemicals	2 points	2 points
	Keeping water usage records	2 points	2 points
	Drip irrigation or recirculation	4 points	4 points
Environmentally certified starting material		Max. 10 points	Max. 10 points

	MPS-ABC or equivalent	10 points	10 points
	Other certificates accepted under FSI Credible Record Keeping	5 points	5 points

Points standard III

Applicable to the following countries:

Brazil, Chile, China, Colombia, Costa Rica, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Ghana, Guatemala, Honduras, India, Indonesia, Kenya, Malaysia, Morocco, Mexico, Nicaragua, Peru, Rwanda, Sri Lanka, Tanzania, Uganda, Vietnam, Zambia, Zimbabwe and South Africa.

		Protected cultivation	Outdoor cultivation
Crop protection		Max. 50 points	Max. 50 points
	Green	15 points	15 points
	Orange	20 points	20 points
	Red	15 points	15 points
Energy		Max. 10 points	Max. 10 points
Fertilisers		Max. 20 points	Max. 20 points
	Nitrogen	10 points	10 points
	Phosphorus	10 points	10 points
Waste		Max. 10 points	Max. 10 points
	Organic	3 points	3 points
	Paper/cardboard	2 points	2 points
	Plastic	2 points	2 points
	Chemical waste	3 points	3 points
Water		Max. 10 points	Max. 10 points
	Collection of rainwater	2 points	2 points
	Collection of leakage water during preparation of chemicals	2 points	2 points
	Keeping water usage records	2 points	2 points
	Drip irrigation or recirculation	4 points	4 points
Environmentally certified starting material		Max. 10 points	Max. 10 points
	MPS-ABC or equivalent	10 points	10 points
	Other certificates accepted under FSI Credible Record Keeping	5 points	5 points

Points standard IV

Applicable to the following country: Israel

		Protected cultivation	Outdoor cultivation
Crop protection		Max. 45 points	Max. 45 points
	Green	13.5 points	13.5 points
	Orange	18.0 points	18.0 points
	Red	13.5 points	13.5 points
Energy		Max. 15 points	Max. 15 points
Fertilisers		Max. 20 points	Max. 20 points
	Nitrogen	10 points	10 points
	Phosphorus	10 points	10 points
Waste		Max. 10 points	Max. 10 points
	Organic	6 points	6 points
	Paper/cardboard	2 points	2 points
	Plastic	2 points	2 points

Water		Max. 10 points	Max. 10 points
	Collection of rainwater	2 points	2 points
	Automatic watering system	2 points	2 points
	Keeping water usage records	2 points	2 points
	Drip irrigation or recirculation	4 points	4 points
Environmentally certified starting material		Max. 10 points	Max. 10 points
	MPS-ABC or equivalent	10 points	10 points
	Other certificates accepted under FSI Credible Record Keeping	5 points	5 points

Points standard V

Applicable to the following countries:

Japan, Taiwan and South Korea.

		Protected cultivation	Outdoor cultivation
Crop protection		Max. 40 points	Max. 50 points
	Green	12 points	15 points
	Orange	16 points	20 points
	Red	12 points	15 points
Energy		Max. 20 points	Max. 10 points
Fertilisers		Max. 20 points	Max. 20 points
	Nitrogen	10 points	10 points
	Phosphorus	10 points	10 points
Waste		Max. 10 points	Max. 10 points
	Organic	3 points	3 points
	Paper/cardboard	2 points	2 points
	Plastic	2 points	2 points
	Chemical waste	3 points	3 points
Water		Max. 10 points	Max. 10 points
	Collection of leakage water during preparation of chemicals	4 points	4 points
	Drip irrigation or recirculation	6 points	6 points
Environmentally certified starting material		Max. 10 points	Max. 10 points
	MPS-ABC or equivalent	10 points	10 points
	Other certificates accepted under FSI Credible Record Keeping	5 points	5 points

13. Appendix 2: Environmental zones (MPS-MIND)

Environmental zone	Description
Environmental zone 1	Dry environment in which impact on aquatic life and soil life is not relevant. Spreading via water is less important than spreading via air. For example: a closed system in a very dry area.
Environmental zone 2	Dry environment in which impact on aquatic life is not relevant but impact on soil life is relevant to a certain extent. Spreading via water is secondary to spreading via air. For example: a non-closed system in a very dry area.
Environmental zone 3	Environment in which cultivation is largely separate from surface water and soil. However, agents can still come into contact with aquatic life through vapour or steam. Spreading via water is secondary to spreading via air. For example: cultivation in a closed system in an environment where surface water is present.
Environmental zone 4	Environment in which cultivation is separate from surface water but not from the soil and groundwater. There may be some discharging directly into surface water. Spreading via water and via air are of equal relevance in the model. For example: a non-closed system in a greenhouse or a relatively dry environment.
Environmental zone 5	Environment in which cultivation is to some extent separate from surface water but not from the soil, and with high groundwater. Spreading via water is more important than spreading via air in this model. For example: a non-closed system in an environment in close proximity to a large amount of water or in which the plot is screened by greenhouses where surface water is present.
Environmental zone 6	Outdoor cultivation in areas with a lot of surface water and a high groundwater level. The effect on aquatic life and the risk of leaching are of equal relevance in the assessment. For example: tree or bulb cultivation in a wetland area.