

# 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 Starting MPS-ABC participants

Before being able to start with MPS-ABC, the participant must apply to the Certification Body (CB) for a quotation. Once the quotation is signed, 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.

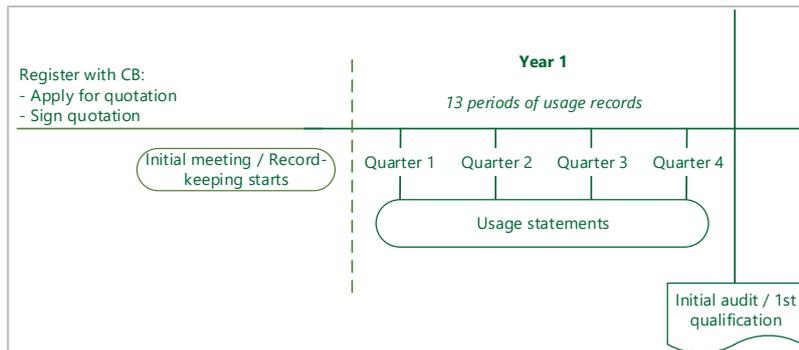


Figure 1: Certification process for starting MPS-ABC participant

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 qualification and the associated certificate, a starting participant must keep usage records for thirteen periods (one calendar 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. All sets of sub-records must be kept for at least 13 consecutive periods before the whole company can qualify for an MPS-ABC certificate and the associated qualification.

#### 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 qualification status.

#### Initial audit

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'. To this end, there must be a full set of accounts present at the company. The MPS-ABC Certificate including the calculated qualification status is awarded to the participant once it has kept records for at least 13 consecutive periods and has passed the initial audit.

### Desk audit

The most important part of the desk audit is the check on record-keeping (see chapter 1.2). In addition, four times a year, at the time of the qualification moments, it is established whether the record-keeping obligation has been met. If this is not the case, the certificate will be revoked until the record-keeping has been updated. In addition, the CB is free to request additional information from the companies, on a random basis, based on recorded data to assess the record-keeping intermediate and remotely.

### 1.1.2 Certified MPS-ABC participants

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

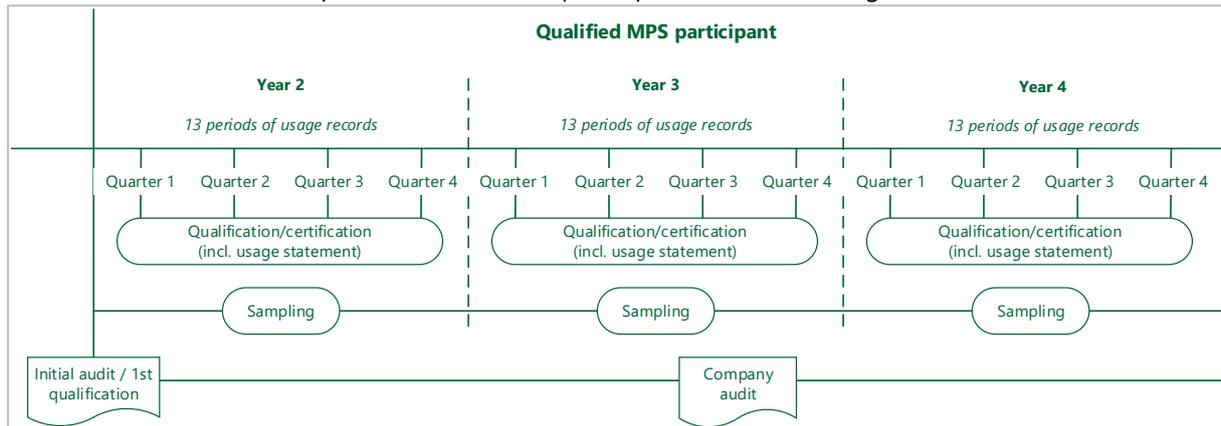


Figure 2: Audit and certification process for certified MPS-ABC participants

### 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'.

### Qualification

At the end of every MPS quarter, the qualifications of all participants are recalculated based on their records. During an audit conducted remotely, MPS checks whether the records have been properly completed and whether any agents have been recorded that are not authorised in the country of use or are on the MPS Black List. MPS also undertakes random checks on certified starting material and may request additional information from companies to check their energy usage records, for example. Provided the participant meets all the requirements of the certification standard, a new certificate and qualification status will be awarded based on the usage records.

### Sampling

Depending on the Reliability Index score (see section 5 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 is used to check for completeness of the usage records and the presence of non-authorised agents and/or agents 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'. To this end, a full set of accounts must be available. 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.

### 1.1.3 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.

## 1.2 Checks of records

MPS-ABC participants' records are checked during company audits and spot-checked via desk audits. During the audits, it is checked whether the records match the accounts.

In addition, the usage records for crop protection agents are checked on two levels:

- 1) Checks via the records: When the records are checked, 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 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 informs MPS that the active substance has not been used, MPS will work with the participant to ascertain why the active substance appears in the records. The ultimate decision as to whether or not to impose a sanction and on what grounds lies with MPS. If MPS and the participant are unable to reach agreement, the situation will be put to the Council of Stakeholders for a decision.

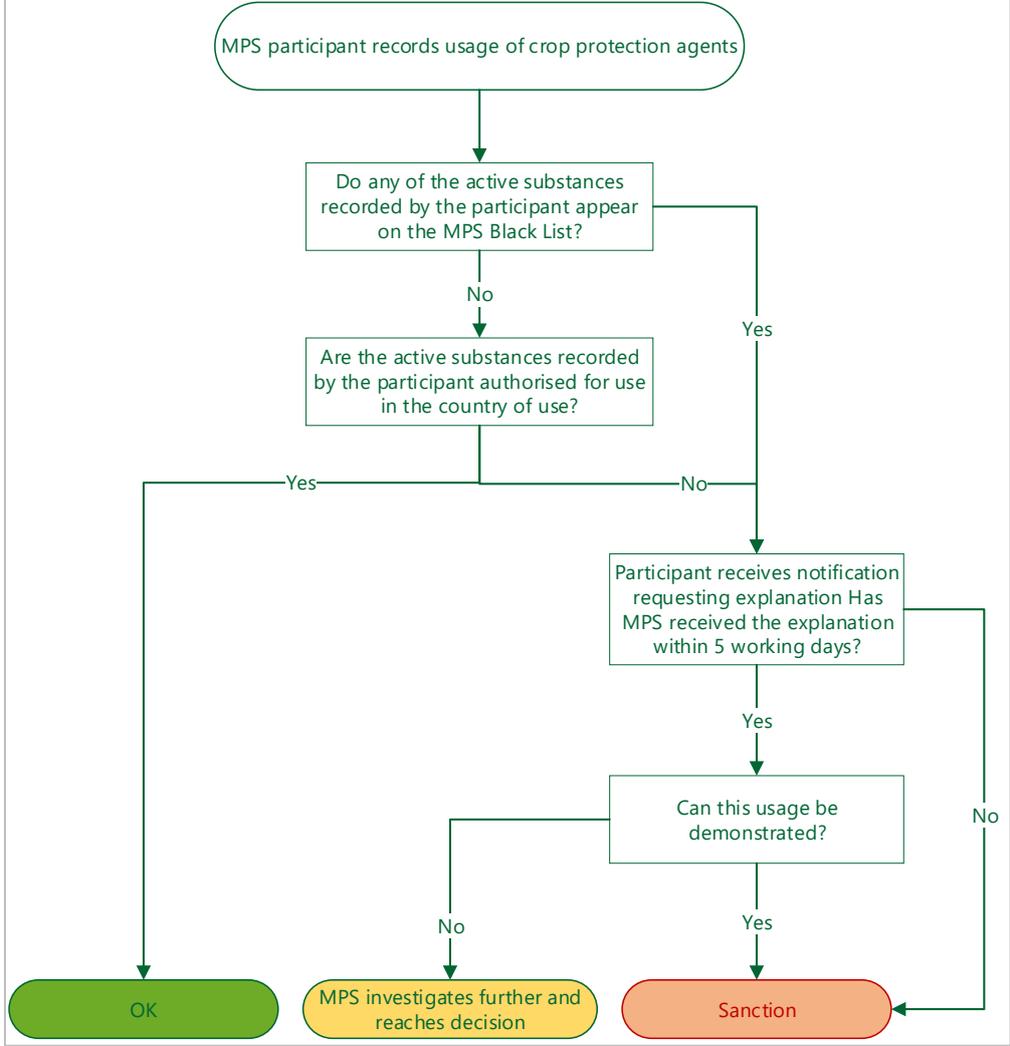


Figure 3: Process for checking crop protection usage records

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.

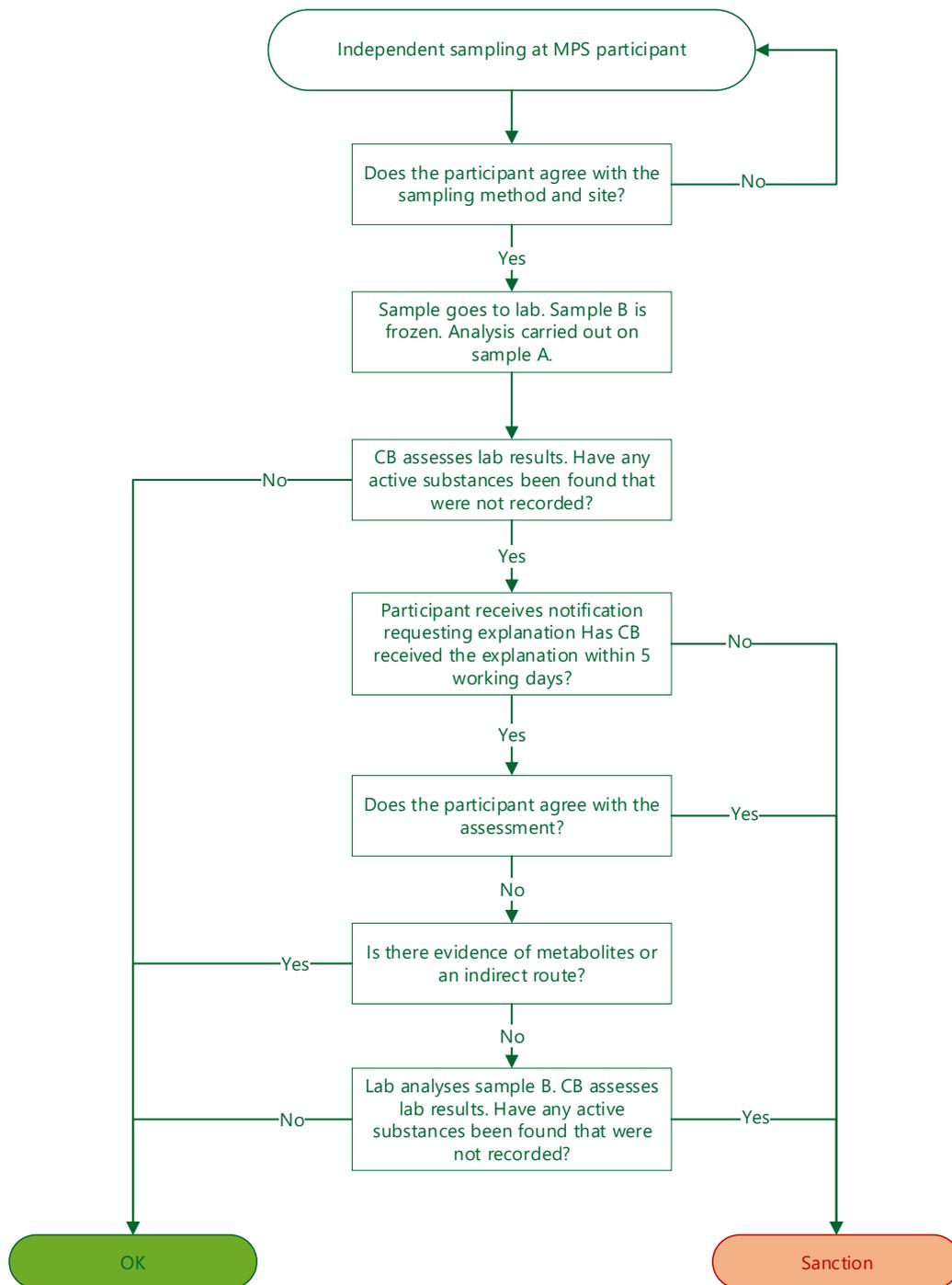


Figure 4: Sampling and analysis process

**Independent sampling:**

Sampling is announced a maximum of five working days in advance, but can also take place unannounced. Samples are taken independently by a lab technician, auditor, or standard owner's representative. In principle, the sample is taken from the primary crop and covers at least 200 grams of plant material. When taking the sample, measures are taken to prevent contamination.

#### Analysis and processing:

The samples are analysed by laboratories accredited according to ISO 17025. 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 MPS, 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 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*)
<p>* Additional requirements for MPS A+ status:</p> <ul style="list-style-type: none"> <li>- Total number of points:           ≥ 90 points</li> <li>- Crop protection:                   &gt; 85% of max. score</li> <li>- Fertilisers:                         &gt; 75% of max. score</li> <li>- Energy:                               &gt; 75% of max. score</li> </ul>				

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 laws and regulations with regard to the use of crop protection agents must be complied with at all times. An up-to-date list of permitted crop protection agents must be available at every production location.

#### 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 NO<sub>3</sub>, NH<sub>4</sub> or P2O<sub>5</sub>
- 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 resources are under pressure, the producer should be aware of this and take the interests of other users into account.

### 3.4.1 General Information Form

#### 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

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 (m<sup>3</sup>).

#### Reused drain water

Volume of collected drain water that is reused (m<sup>3</sup>).

#### 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. 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.

### 5.1 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.

A record is kept of points deducted for each participant over the course of an entire year. On 1 November the individual RI classification for the following calendar year is determined using the following formula:

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

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. On 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.

### 5.2 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.

## 6. 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.

### 6.1 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.

<b>MPS MIND Information Form</b>	
<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

## 6.2 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.

## 7. 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.
- CO<sub>2</sub> dosage: A higher CO<sub>2</sub> 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.

<b>MPS-OEX Information Form</b>	
<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 <sub>2</sub> application	State here whether you use CO <sub>2</sub> 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.

<b>MPS-OEX record keeping</b>	
<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

## 8. Rented and contract cultivation

MPS-ABC not only contains the participant's usage records for its own sites, but also for rented sites (where the MPS participant uses a piece of land belonging to third parties, either against payment or free of charge) and contract cultivation sites (where part of the MPS participant's production is outsourced but the participant remains the owner of the product).

In such cases, the participant must apply for a separate set of sub-records identified as 'rented or contract cultivation'. The area covered by these sub-records is added to the area of its own sites and the total usage standard is increased. The environmental impact resulting from agents, fertilisers and energy usage is also for the account of the MPS participant as the owner of the products.

The MPS participant is at all times responsible for applications and treatments at its rented and contract cultivation sites and therefore also for prompt and accurate recording of agents and energy used there. It is therefore also the MPS participant's responsibility to ensure that the contractor regularly provides usage data for its MPS records.

Records of crop protection agents at rented and contract cultivation sites are checked by taking samples. These sites are sampled once every two years. This may take place at the rented or contract cultivation site or on arrival at the participant's own production site.

## 9. 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.

### 9.1 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'.

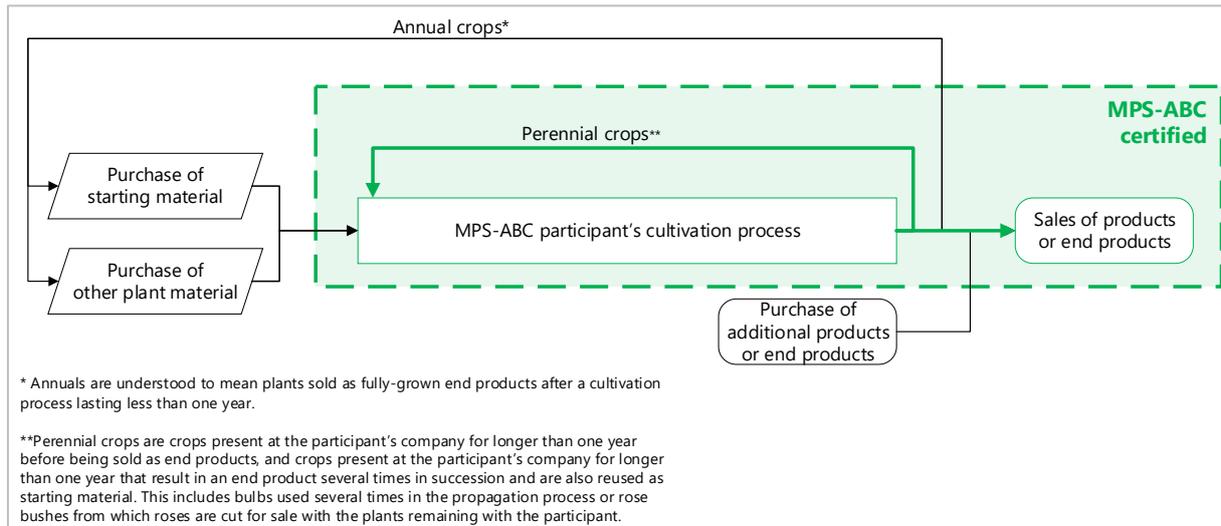


Figure 9: Purchase of plant material

#### 9.1.1 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.

### 9.1.2 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.

## 9.2 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.

## 10. 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](http://www.my-mps.com).

## 11. 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
<b>Crop protection</b>		<b>Max. 40 points</b>	<b>Max. 50 points</b>
	Green	12 points	15 points
	Orange	16 points	20 points
	Red	12 points	15 points
<b>Energy</b>		<b>Max. 30 points</b>	<b>Max. 10 points</b>
<b>Fertilisers</b>		<b>Max. 20 points</b>	<b>Max. 30 points</b>
	Nitrogen	10 points	15 points
	Phosphorus	10 points	15 points
<b>Waste</b>		<b>Max. 10 points</b>	<b>Max. 10 points</b>
	Organic	6 points	6 points
	Paper/cardboard	2 points	2 points
	Plastic	2 points	2 points
<b>Environmentally certified starting material</b>		<b>Max. 10 points</b>	<b>Max. 10 points</b>
	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
<b>Crop protection</b>		<b>Max. 40 points</b>	<b>Max. 50 points</b>
	Green	12 points	15 points
	Orange	16 points	20 points
	Red	12 points	15 points
<b>Energy</b>		<b>Max. 20 points</b>	<b>Max. 10 points</b>
<b>Fertilisers</b>		<b>Max. 20 points</b>	<b>Max. 20 points</b>
	Nitrogen	10 points	10 points
	Phosphorus	10 points	10 points
<b>Waste</b>		<b>Max. 10 points</b>	<b>Max. 10 points</b>
	Organic	3 points	3 points
	Paper/cardboard	2 points	2 points
	Plastic	2 points	2 points
	Chemical waste	3 points	3 points
<b>Water</b>		<b>Max. 10 points</b>	<b>Max. 10 points</b>
	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
<b>Environmentally certified starting material</b>		<b>Max. 10 points</b>	<b>Max. 10 points</b>

	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
<b>Crop protection</b>		<b>Max. 50 points</b>	<b>Max. 50 points</b>
	Green	15 points	15 points
	Orange	20 points	20 points
	Red	15 points	15 points
<b>Energy</b>		<b>Max. 10 points</b>	<b>Max. 10 points</b>
<b>Fertilisers</b>		<b>Max. 20 points</b>	<b>Max. 20 points</b>
	Nitrogen	10 points	10 points
	Phosphorus	10 points	10 points
<b>Waste</b>		<b>Max. 10 points</b>	<b>Max. 10 points</b>
	Organic	3 points	3 points
	Paper/cardboard	2 points	2 points
	Plastic	2 points	2 points
	Chemical waste	3 points	3 points
<b>Water</b>		<b>Max. 10 points</b>	<b>Max. 10 points</b>
	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
<b>Environmentally certified starting material</b>		<b>Max. 10 points</b>	<b>Max. 10 points</b>
	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
<b>Crop protection</b>		<b>Max. 45 points</b>	<b>Max. 45 points</b>
	Green	13.5 points	13.5 points
	Orange	18.0 points	18.0 points
	Red	13.5 points	13.5 points
<b>Energy</b>		<b>Max. 15 points</b>	<b>Max. 15 points</b>
<b>Fertilisers</b>		<b>Max. 20 points</b>	<b>Max. 20 points</b>
	Nitrogen	10 points	10 points
	Phosphorus	10 points	10 points
<b>Waste</b>		<b>Max. 10 points</b>	<b>Max. 10 points</b>
	Organic	6 points	6 points
	Paper/cardboard	2 points	2 points
	Plastic	2 points	2 points

<b>Water</b>		<b>Max. 10 points</b>	<b>Max. 10 points</b>
	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
<b>Environmentally certified starting material</b>		<b>Max. 10 points</b>	<b>Max. 10 points</b>
	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.

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

## 12. 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.