

**Evaluation Manual  
for the Authorisation  
of Plant protection products  
according to Regulation (EC) No 1107/2009**

**NL part**

**Plant protection products**

**Chapter 7 Ecotoxicology; terrestrial; bees**

**version 2.2; May 2018**

**ctgb**

**Board  
for the Authorisation  
of Plant protection products and Biocides**

**Chapter 7 Ecotoxicology; terrestrial; bees**

Category: Plant protection products

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**Changes in the Evaluation Manual**

Evaluation manual PPP NL part Chapter 7 Ecotoxicology; terrestrial; bees			
Version	Date	Paragraph	Changes
2.0	January 2014	Appendix II-1	Version 1.0 of list of bee-attractive crops (please note that V.02 was relevant from 25/09/2015, as indicated on <a href="http://www.ctgb.nl">www.ctgb.nl</a> ).
2.1	October 2016		Formatting changes. Updating references to Regulation (EC) No 1107/2009.
			More detailed information about the risk assessment.
		Appendix II-1	Version 2.0 of list of bee-attractive crops.
		Appendix II-3	Inclusion of a list of crops for which the risk via honeydew should be considered in the risk assessment.
2.2	May 2018	2.3 <i>honeydew</i> and Appendix II-3	<p>Update of the honeydew list: The list is now based on the Dutch crop list ('DTG-lijst') so that all crops are included. In addition, all honeydew-producing insects are included (not only aphids). Changes to the previous list are described below.</p> <p><b>Crops not mentioned in the previous list but considered relevant for honeydew in the new list:</b></p> <ul style="list-style-type: none"> <li>- All oilseeds;</li> <li>- All fibre crops;</li> <li>- Most green manure crops and fodder crops (all clovers, lupin, common vetch, serradella, celosia, esparcet, black oat, oil radish, oilseed rape, yellow mustard seed, marrow-stem kale, tansy phacelia, corn spurrey, african marigold, sticky nightshade, sudangrass, gold-of-pleasure, forage turnip, aragula and niger-seed);</li> <li>- Most of the category other arable crops (large-rooted cichory, buckwheat, common hop, common madder, chinese fairy grass, elephant grass, quinoa, wild woad, sorghum, teff);</li> <li>- Quince and common medlar</li> </ul>

			<ul style="list-style-type: none"> <li>- All vegetable sprouts</li> <li>- Baby leaf crops</li> <li>- Pumpkins and watermelon</li> <li>- Marsh and Water plants</li> <li>- Forestry</li> <li>- Uncultivated land with the exception of hard surfaces</li> <li>- Water courses</li> <li>- Reed and osier crops</li> <li>- Refuse heaps</li> </ul> <p><b>Crops that were mentioned in the previous list (and therefore were considered relevant for honeydew) but are <i>not</i> relevant in the new list:</b></p> <p>a) Because in these crops honeydew-producing insects are controlled to the level that honeydew does not occur:</p> <ul style="list-style-type: none"> <li>- Seed potato</li> <li>- Stone fruit</li> <li>- Berries</li> <li>- Grapes</li> <li>- Blackberry and raspberry family (Rubus spp.)</li> <li>- Leafy vegetables</li> <li>- Chinese cabbage</li> <li>- Radishes</li> <li>- Bunched-up carrots</li> <li>- Celery and cardoon</li> <li>- Leek</li> <li>- Flower bulb and flower tuber crops</li> <li>- Ornamental crops with the exception of forced shrubs</li> <li>- Conifers</li> <li>- Roses with the exception of rose stocks</li> <li>- Heather</li> <li>- Fruit trees and shrubs with the exception of tree stocks</li> <li>- Perennial crops</li> <li>- Plant breeding crops and basic seed production for arable, vegetable and fruit crops, herbs and ornamental crops</li> <li>- Lawn, playground and sports field (were included as amenity areas in the previous list)</li> </ul> <p>b) because in these crops honeydew-producing pests do not occur:</p> <ul style="list-style-type: none"> <li>- Walnut</li> <li>- Bulb vegetables</li> </ul> <p>Note that some crops were not mentioned explicitly in the previous list, but were considered to be covered by a crop group, e.g.:</p> <ul style="list-style-type: none"> <li>- Canary grass:cereals</li> <li>- Marrowfat pea, lentil: pulses</li> <li>- Tall fescue, cock's foot: grasses</li> <li>- Hazelnut and chestnut: nuts</li> <li>- fig: other small fruit</li> <li>- lima bean, flageolets, sugar pea and field pea: legume vegetables (fresh)</li> <li>- okra: vegetables</li> <li>- jerusalem artichoke, japanese artichoke, sweet potato, red beet, horseradish, yam: root and tuber vegetables</li> <li>- cardoon, globe artichoke, sea kale, marsh samphire:</li> </ul>
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			<p>stem vegetables</p> <ul style="list-style-type: none"><li>- various aromatic and medicinal herbs: herbs</li><li>- medicinal root crops: bulb, tuber and root crops</li><li>- various herb seed crops: herb seed crops</li></ul>
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## GENERAL INTRODUCTION

This chapter describes the data requirements for estimation of the effects on bees of a plant protection product and its active substance in the NL framework (§2 - §2.5).

### 2. NL FRAMEWORK

The NL framework (§2 - §2.5) describes the authorisation procedure for plant protection products based on existing substances, included in [Commission Implementing Regulation \(EU\) No 540/2011](#) and new active substances.

A new substance is a substance not authorised in any of the Member States of the EU on the 25<sup>th</sup> of July 1993.

The plant protection product that contains such substances may be authorised if the criteria laid down in [Regulation \(EC\) No 1107/2009](#) are met, also taking into account the national stipulations described in the [Bgb](#) (Plant protection products and Biocides Decree). The evaluation dossiers must meet the requirements in [Commission Regulation \(EU\) No 283/2013](#) and [Commission Regulation \(EU\) No 284/2013](#) implementing Regulation (EC) No 1107/2009 (see Application Form and corresponding instructions).

A Member State may deviate from the EU evaluation methodology on the basis of agricultural, phytosanitary and ecological, including climatological, conditions which are specific to the Netherlands.

The NL framework describes the data requirements (§2.2), evaluation methodologies (§2.3), criteria and trigger values (§2.4) for which specific rules apply in the national approval framework or when the national framework has been elaborated in more detail than the EU framework.

The NL procedure described in §2 - §2.5 of this chapter can also be used for evaluation of a substance for approval, and consequently inclusion in [Commission Implementing Regulation \(EU\) No 540/2011](#) in case no European procedure has been described

#### 2.1 Introduction

The assessment as regards the risk to bees follows the EU framework; for the NL assessment reference is therefore made to the EU assessment. The points described in this chapter concern further elaborations of the EU procedure.

#### 2.2 Data requirements

The data requirements for chemical Plant protection products are in agreement with the provisions in EU framework (see §1.2 of the EU part).

Experiments carried out after the 25<sup>th</sup> of July 1993 must have been carried out under GLP.

There may be no doubt about the identity of the tested product or the purity of the tested substance for each study.

The studies must be carried out in compliance with the applicable guidelines.

#### 2.3 Risk assessment

The evaluation methodologies for chemical plant protection products comply with the description under EU framework (see §1.3 of the EU part), with the following elaborations:

##### *Crop attractiveness for honey bees*

On national level, an overview is given of the attractiveness of agricultural crops for honeybees for the collection of nectar and/or pollen (in Dutch, appendix II-1). This document

is used for identification of relevant crops for honeybee risk assessment. Moreover, this document is valuable for the understanding of risk mitigation sentences in which the phrase 'bee-attractive crops' is mentioned.

The document also contains definitions of flower and flowering crop and specifies the foraging period of honeybees in the Netherlands: February through October. If a product is applied outside this period, it is assumed in the risk assessment that there is no direct exposure to honeybees. Note that the risk via systemic uptake should be addressed regardless of application timing.

#### *Honeydew*

In addition to attractiveness because of the presence of nectar or pollen, crops may be visited by bees to collect honeydew produced by aphids or other insects. Honeydew can be contaminated with pesticides when it is present on a crop and that crop is oversprayed with a plant protection product, or when a systemic substance is present in the sap stream of crop plants on which honeydew-producing insects are feeding. A list of crops in which honeydew can be present is included as Appendix II-3. For these crops, the exposure route via honeydew is included in the risk assessment. The risk is estimated based on the toxicity of the product and the period of application. In case of a potential risk, the options for refinement include either a restriction on application when bees are actively flying on the crop or the submission of (semi-)field studies in order to demonstrate a low risk in a more realistic situation. For systemic substances, additional information may be submitted on residue levels in honeydew.

#### *Exposure via flowering weeds*

In the first tier, it is assumed that bees fly on flowering weeds in the field. Honeybees can forage on flowering weeds when a significant number of flowering weeds are present in the crop (i.e. more than two flowering weeds per square meter, see definition in Appendix II-1). In higher tier, information can be used about normal agricultural practice in the Netherlands, in which presence of a large number of flowering weeds is not expected for many crops. Exceptions to this caveat are e.g. (semi-)permanent crops like grasslands, orchards and vineyards.

#### *Off-field risk*

Spray applications: In the case that an in-field risk to bees has been determined (see §1.3 of the EU part), an off-field risk should be calculated using the spray drift values as used for non-target arthropods (see §2.3 of Chapter 7 Ecotoxicology: terrestrial; non target arthropods).

Seed treatments: The use of coated seeds in combination with certain seeding processes can lead to dust drift which can be hazardous for bees. The matrix 'Relevance of dust for pesticide treated seeds' shows in which circumstances (crops in combination with coated seeds or certain seeding processes) protective actions must be taken to prevent dust drift (appendix II-2).

In case dust drift cannot be excluded, applicants are requested to submit relevant risk assessments.

#### *Succeeding crops*

Persistent and systemic substances may be present in nectar and/or pollen of succeeding flowering crops. The Ctgb assesses this risk on a case-by-case basis until harmonized guidance is available.

Note that the Ctgb considers replacement crops as succeeding crops. If a crop fails soon after sowing or planting, e.g. because the seedlings freeze in early spring, a replacement crop can be sown. This replacement crop may be the same or a different crop than the failed crop. This is rare for most crops, but may happen relatively often for others. A higher risk to

bees than considered in the standard risk assessment may occur via residues in nectar and pollen of the replacement crop in cases where a persistent and systemic substance was used in both the first and second crop, because the concentration in soil is higher than would be expected in a normal growth cycle. For some crops, the likelihood of crop failure was determined in a 2011 Dutch project. The list below can be used in the risk assessment, if relevant. Note that the list is not exhaustive.

Crop	Crop failure happens regularly?	If yes, what is the replacement crop?
potato	no	
endive	no	
beets	<b>YES</b>	almost always beets
flower bulbs, bulb flowers	no	
orchards (apple, pear)	no	
tree nursery crops	no	
peas	no	
grass vegetation	no	
cabbage	no	
maize	no	
leek	no	
ornamentals	no	
lettuce	no	
onion, shallots	no	

#### *Risk mitigation measures*

If a potential risk is indicated, this may be addressed with additional data. Alternatively, it is often possible to address a potential risk with a restriction sentence on the instructions for use. Such a restriction sentence can e.g. specify that

- application is only allowed when bees are not active in the field;
- specific drift reducing nozzles must be used to protect bees foraging off-field;
- treated seed must have a low dust level and can be sown only with low-drift sowing techniques;
- a waiting period of a certain number of months must be taken into account before bee-attractive succeeding crops can be sown or planted;
- entry of bees into greenhouses must be avoided e.g. by means of insect netting.

It is essential that restriction sentences are seen by the right person. E.g. for treated seed, restrictions must therefore be present not only on the product label but also on the bags/containers with treated seed.

If a waiting period is prescribed for a succeeding crop, the grower applying this product is not necessarily the one using the field in the following year. When such a sentence is necessary, it should be considered if this period is so long that it extends into the next season *and* it is likely that the field is used by another grower in that next season (exchange/renting of soil is usual for some crops, e.g. potatoes and tree nursery).

#### *Risk to introduced pollinators*

The Ctgb assesses the risk to introduced pollinators when this is relevant for the crop(s) under evaluation and will include a warning sentence on the product label when adverse effects on introduced pollinators cannot be excluded.

## **2.4 Approval**

The evaluation of products on the basis of existing active substances already included in [Commission Implementing Regulation \(EU\) No 540/2011](#), or new substances, has been laid

down in [Regulation \(EC\) No 1107/2009](#). Where no European methodology is agreed upon, a national methodology is applied as described in the [Bgb](#) (Plant protection product and Biocides Decree).

#### **2.4.1 Criteria and trigger values**

For the criteria and trigger values for bees for the national authorisation reference is made to the EU part (§1.4.2).

#### **2.4.2 Decision making**

For decision making as regards the risk to bees for the national authorisation reference is made to the EU part (§1.4.3).

### **2.5 Developments**

See EU part §1.5.



**APPENDICES**

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**Appendix II-1 List of attractiveness of agricultural crops for honeybees for the collection of nectar and/or pollen**

**Aantrekkelijkheid van gewassen voor honingbijen voor het verzamelen van nectar en/of pollen**

**Attractiveness of agricultural crops to honeybees for the collection of nectar and/or pollen**

**Versie 2.0 / Version 2.0**

## **Introductie**

### Voorwoord

Naar aanleiding van de motie Ouwehand (Kamerstukken II 2010/11, 32 372 nr. 19) heeft het College voor de toelating van gewasbeschermingsmiddelen en biociden (Ctgb) de toegelaten gewasbeschermingsmiddelen op basis van drie neonicotinoïden en fipronil in 2011 opnieuw getoetst op de effecten op de gezondheid van honingbijen. Voor een aantal middelen waren aanvullende gebruiksrestricties nodig om te voldoen aan de meest recente eisen met betrekking tot risico's voor honingbijen. In deze aanvullende gebruiksrestricties worden onder andere beperkingen voorgeschreven voor het zaaien of planten van *voor bijen aantrekkelijke gewassen* na gebruik van middelen op basis van neonicotinoïden in voorgaande teelten.

Naar aanleiding van bovengenoemde herbeoordeling kwam het Ctgb met een aantal aanbevelingen. Eén van de aanbevelingen is dat telers, gebruikers en voorlichters ingelicht moeten worden over welke gewassen aantrekkelijk zijn voor honingbijen.

Door middel van het opstellen van een lijst waarin voor alle gewassen wordt aangegeven of ze worden bevlogen door honingbijen voor het verzamelen van nectar en/of pollen, wordt voor telers, gebruikers en voorlichters duidelijk welke gewassen worden bedoeld in de gebruiksrestricties. Onbedoeld onjuist gebruik kan hierdoor worden voorkomen. Ook de handhaving krijgt hiermee een goed instrument in handen om overtredingen te constateren.

Bij de totstandkoming van dit document zijn stakeholders betrokken geweest uit zowel de bijensector als het landbouwbedrijfsleven en het onderzoek. Onderstaande organisaties zijn in de gelegenheid gesteld om hun input te leveren:

- Artemis
- Bijen@wur
- College voor de toelating van gewasbeschermingsmiddelen en biociden (Ctgb)
- DLV-plant
- Inbuzz
- Koninklijke Algemeene Vereeniging voor Bloembollencultuur (KAVB)
- LTO-Nederland
- Naturalis
- Nederlandse Bijenhouders Vereniging (NBV)
- Nefyto
- Nederlandse Voedsel- en Warenautoriteit (NVWA)
- Universiteit van Utrecht

In augustus 2015 heeft een update van de lijst plaatsgevonden. Aanleiding hiervoor was dat in mei 2015 door bijen@wur een literatuurstudie<sup>1</sup> gepubliceerd is met een overzicht van cultuurgewassen en wilde planten die als drachtplant voor de honingbij fungeren met bijbehorende waarden van nectar en pollen voor honingbijen. Ook is in juni 2015 de Definitielijst toepassingsgebieden gewasbeschermingsmiddelen (DTG lijst), die als basis is gebruikt voor deze lijst, aangepast.

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<sup>1</sup> Steen, J. van der en Cornelissen, B., Dracht in Nederland (cultuurgewassen en wilde planten) (deel II) Rapport 606.

### Toelichting op de lijst:

Deze lijst bevat een overzicht van de meeste gewassen in Nederland. Als basis voor de lijst van gewassen is de Definitielijst toepassingsgebieden gewasbeschermingsmiddelen (DTG lijst, versie 2.1, Ctgb juni 2015) gebruikt.

In bijgevoegde lijst is aangegeven of de gewassen worden bevlogen door honingbijen voor het verzamelen van nectar en/of pollen. Dit is onder andere gebaseerd op de in het voorwoord genoemde literatuurstudie van [bijen@wur](mailto:bijen@wur). Er wordt uitgegaan van de teelt van gewassen volgens goed landbouwkundig gebruik. Komt een gewas in een normale productieteelt niet tot bloei, dan wordt deze op de lijst vermeld als niet aantrekkelijk voor honingbijen. Een voorbeeld hiervan zijn koolgewassen zoals spruitkool of bloemkool. Ook kan het voorkomen dat gewassen wel in bloei komen op het veld, maar dat deze door honingbijen niet worden bevlogen omdat er op deze gewassen geen nectar en/of pollen worden verzameld. Deze gewassen zijn op de lijst aangemerkt als niet aantrekkelijk voor honingbijen.

Een andere situatie is dat een gewas in principe tot bloei kan komen en aantrekkelijk is voor honingbijen maar vanuit landbouwkundige overwegingen bloei wordt voorkomen. Een voorbeeld hiervan is het klepelen en onderwerken van een groenbemester voordat deze in bloei komt (om zaadvorming te voorkomen) of de vermeerderingsteelt van aardbeien waarbij bloei op het veld niet voorkomt. Gezien het feit dat er wel sprake kan zijn van bloei op het veld (bijvoorbeeld in de productieteelt van aardbei) wordt deze gewasgroep in de lijst wel aangemerkt als aantrekkelijk voor honingbijen.

De groep van sierteeltgewassen bevat een breed assortiment aan gewassen. Voor deze groep is er vanuit gegaan dat niet bloeiende soorten als niet aantrekkelijk voor honingbijen kunnen worden beschouwd. Bloeiende soorten worden als aantrekkelijk voor honingbijen beschouwd. Dit geldt zowel voor de bedekte als de onbedekte teelten.

Een aantal gewassen waaronder prunus, vlier, wilg, pompoen, stokroos, pioenroos, zonnebloem en een aantal soorten bonen zoals tuinboon (*Vicia*) scheiden nectar uit, uit zogenaamde extraflorale nectariën: nectarklieren buiten de bloem. Bij een aantal bloeiende planten (bijvoorbeeld korenbloem of zonnebloem) wordt extrafloraal nectar aan de knop geproduceerd, reeds voordat de plant bloeit. Blootstelling aan voor honingbijen schadelijke middelen dient in deze gevallen voorkomen te worden. De meeste van deze gewassen zijn in de lijst al aangemerkt als aantrekkelijk voor honingbijen.

Als in de lijst van [bijen@wur](mailto:bijen@wur) de waardering voor nectar of stuifmeel 1 of hoger is, dan is er sprake van een honingbij-aantrekkelijk gewas (tenzij het gewas niet in bloei komt bij goed landbouwkundig gebruik, zie boven). Bij gewassen waar in de lijst van [bijen@wur](mailto:bijen@wur) 'no data' staat, worden deze als honingbij-aantrekkelijk aangemerkt (o.a. linzen, sojaboon, meekrap). Van deze gewassen is wel bekend dat ze door honingbijen bezocht worden, maar er zijn geen gegevens bekend over de nectar en stuifmeelwaarden.

### Andere aandachtspunten:

Als een toepassing van een voor honingbijen schadelijk middel plaats vindt in een gewas dat is aangemerkt als niet aantrekkelijk voor honingbijen, kan toch schade aan honingbijen plaats vinden indien deze om andere redenen actief zijn in het perceel. Bloeiende onkruiden kunnen worden bevlogen door honingbijen. Indien er een aanzienlijk aantal bloeiende onkruiden in een gewas voorkomt (meer dan twee bloeiende onkruiden per vierkante meter, zie onderstaande definitie) kunnen honingbijen hierop vliegen. Ook

kunnen honingbijen actief vliegen op niet-bijaantrekkelijke gewassen om honingdauw te verzamelen die door bladluizen is afgescheiden. Deze blootstellingsroutes (bloeiende onkruiden en honingdauw) vallen buiten de reikwijdte van deze lijst, maar worden wel in de risicobeoordeling meegenomen. In de risicobeoordeling wordt de relevantie van deze blootstellingsroutes bepaald voor elk gewas waarvoor een toelating wordt aangevraagd. Voedergrasland (weiland en maaigrasland), grasvegetatie, gazons en weilanden kunnen een aanzienlijke hoeveelheid bloeiende onkruiden bevatten. Daarom is in de lijst voor deze groepen een opmerking opgenomen om speciale aandacht te vestigen op deze mogelijke blootstellingsroute.

In sommige gewassen (zoals peen of witlof (pennenteelt)) die normaal niet tot bloei komen en dus als niet aantrekkelijk voor honingbijen zijn aangemerkt, kunnen tijdens de teelt zogenaamde schieters worden gevormd. Deze schieters dienen te worden verwijderd indien er meer dan twee bloeiende planten per vierkante meter voorkomen (zie definitie bloei).

Voor bepaalde middelen gelden restricties voor volggewassen die aantrekkelijk zijn voor honingbijen. Gewassen die in de lijst staan vermeld als aantrekkelijk voor honingbijen mogen niet worden gezaaid of geplant binnen de voorgeschreven wachttijd, ook niet als bloei van deze volggewassen geruime tijd na zaaien of planten plaatsvindt.

Honingbijen vliegen in de periode van februari tot eind oktober. Indien toepassing van een middel buiten deze periode aangevraagd wordt, is er dus geen directe blootstelling van honingbijen. In de risicobeoordeling wordt hier rekening mee gehouden.

### Definities:

#### *Definitie bloei:*

Bloemen waarbij meeldraden of stampers zichtbaar zijn.

#### *Definitie bloeiend gewas bij bloembollen:*

Een gewas staat in bloei wanneer meer dan 1% van de planten op een perceel bloeit. In de praktijk betekent het dat er sprake is van bloei wanneer meer dan twee bloemen per strekkende meter bed bloeien.

#### *Definitie bloeiend gewas bij fruit en hoog opgaande boomkwekerijgewassen:*

Bij fruitgewassen is sprake van bloei wanneer meer dan 1% van de bloemen bloeit.

#### *Definitie bloeiend gewas (overige gewassen):*

1. Bij meer dan twee bloeiende planten (geteeld gewas of onkruiden) per vierkante meter is er sprake van bloei.

## **Introduction**

### **Preface**

Version 1.0 of this list was drafted in 2012 following the re-assessment of the risk to bees of authorised products containing three neonicotinoids and fipronil in 2011 by the Board for the authorisation of plant protection products and biocides (Ctgb). Stakeholders from beekeeping organisations, the agricultural sector and research organizations were involved in drafting the list.

The list was updated in August 2015, for several reasons: In May 2015, the Dutch bee research institute bees@wur<sup>2</sup> published a literature review which presents an overview of agricultural crops and wild plants that act as foraging source for honeybees, with values indicating their attractiveness to nectar and pollen. Also, the Dutch crop hierarchy list on which this list is based was revised in June 2015.

### **Explanation of the list**

The list contains an overview of most agricultural crops in the Netherlands. The crop hierarchy is based on the 'Definitielijst toepassingsgebieden gewasbeschermingsmiddelen' (DTG lijst, versie 2.1, Ctgb June 2015). The list indicates, for each crop, whether it is attractive to honeybees for the collection of nectar and/or pollen. This is based on crop properties and agricultural practice in the Netherlands and may not be (completely) relevant for other countries.

Good Agricultural Practice (GAP) is assumed. If a crop does not flower during normal production, it is indicated as not attractive to honeybees (example: cabbage crops, e.g. cauliflower).

It may also possible that a crop does flower in the field, but is not foraged on by honeybees for nectar and/or pollen. These crops are also indicated as not attractive to honeybees.

Within a crop category or subcategory there may be differences, e.g. when a crop does in principle flower and is attractive to honeybees, but flowering is avoided for agricultural reasons. An example is the reproduction culture of strawberries where flowering does not occur in the field due to agricultural practices. Nevertheless, the crop subcategory strawberries is indicated as attractive to honeybees in the list since in production culture of strawberries, flowering does occur.

The cultivation category of the ornamentals contains a large variety of crops. For this category it is assumed that non-flowering species are not attractive to honeybees while flowering species are attractive to honeybees.

A number of crops, among which prunus, elder, willow, pumpkin, hollyhock, peony, sunflower, and a number of beans, among which broad bean (*Vicia*), produce nectar from extrafloral nectaries (nectar glands outside the flower). A number of flowering plants (e.g. cornflower, sunflower) produce extrafloral nectar on the flower bud, before the plants flower. Exposure to products harmful to honeybees should be avoided in these cases. Most of these crops are already indicated as attractive to honeybees in the list.

If a crop is given a value of 1 or higher for nectar and/or pollen in the literature review of bees@wur, it is marked as a honeybee-attractive crop in this list (unless the crop does not flower under good agricultural practice, see above). Crops indicated with 'no data' in the literature review of bees@wur are also marked as a honeybee-attractive crop in this list (e.g. lentils, soya bean, common madder).

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<sup>2</sup>Steen, J. van der en Cornelissen, B., Dracht in Nederland (cultuurgewassen en wilde planten) (deel II) Rapport 606.

## Other points of attention

Please note that a crop field may be attractive to honeybees even if the crop is indicated as not attractive to honeybees in this list. This may be due to e.g. flowering weeds or the presence honeydew.

Honeybees can forage on flowering weeds when a significant number of flowering weeds are present in the crop (i.e. more than two flowering weeds per square meter, see definition below). Also, honeybees can visit a non-flowering crop to collect honeydew produced by aphids. These exposure routes (flowering weeds and honeydew) are outside the scope of this list, but are included in the risk assessment. In the risk assessment, the relevance of these exposure routes is determined for each crop under evaluation. Since flowering weeds may occur in fodder grass land (permanent pasture and mowing grassland), managed amenity turf, lawns and permanent pasture in large numbers, the entries for these groups in this list contain a remark highlighting this potential exposure route.

In some crops (e.g. carrots, chicory (root growing)) which usually do not flower and are therefore indicated as not attractive to honeybees, some individual plants may flower. These flowering plants need to be removed in case there are more than two flowering plants per square meter (see definition of flowering, below).

For some plant protection products there are restrictions on succeeding crops which are attractive to honeybees. Crops which are marked in the list as attractive to honeybees may not be sown or planted within the prescribed waiting period, even when flowering of these succeeding crops occurs a considerable time after sowing or planting.

Honeybees fly in the period of February through October. If a product is applied outside this period, it is assumed in the risk assessment that there is no direct exposure to honeybees.

## Definitions:

### *Definition flowering (bloom):*

Flowers in which the stamen or pistils are visible.

### *Definition flowering crop – flower bulbs/bulb flowers:*

A crop is in flower when more than 1% of the plants in a field is flowering. In Dutch agricultural practice this means that a crop is considered to be flowering when more than two plants per linear meter of a field are flowering.

### *Definition flowering crop - orchard:*

An orchard is considered a flowering crop when more than 1% of the flowers in an orchard are flowering.

### *Definition flowering crop - field crops:*

The crop is considered a flowering crop when more than two plants (crop and/or weed plants) per square meter are flowering.

## Aantrekkelijkheid van gewassen voor honingbijen voor het verzamelen van nectar en/of pollen / Attractiveness of agricultural crops to honeybees for the collection of nectar and/or pollen

### Professioneel gebruik/Professional use

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
<b>1. Akkerbouwgewassen</b>				<b>1. Arable crops</b>				
	1.1 Aardappelen				1.1 Potatoes			
		Pootaardappel	SOLTU			Seed potato	Ja / Yes	Voor pollen / For pollen
		Consumptieaardappel				Ware potato	Ja / Yes	Voor pollen / For pollen
		Zetmeelaardappel				Starch potato	Ja / Yes	Voor pollen / For pollen
	1.2 Bieten				1.2 Beet			
		Suikerbiet	BEAVA			Sugar beet	Nee / No	
		Voederbiet	BEAVC			Fodder beet	Nee / No	
	1.3 Granen				1.3 Cereals			
	1.3.1 Wintergraan				1.3.1 Winter cereals			
		Wintertarwe	TRZAW			Winter wheat	Nee / No	
		Wintergerst	HORVW			Winter barley	Nee / No	
		Winterrogge	SECCW			Winter rye	Nee / No	
		Triticale	TTLSS			Triticale	Nee / No	
		Spelt	TRZSP			Spelt	Nee / No	
		Kanariezaad (kanariegras)	PHACA			Canary grass	Nee / No	
	1.3.2 Zomergraan				1.3.2 Spring cereals			
		Zomertarwe	TRZAS			Spring wheat	Nee / No	
		Zomergerst	HORVS			Spring barley	Nee / No	
		Zomerrogge	SECCS			Spring rye	Nee / No	
		Haver	AVESA			Oats	Nee / No	
	1.3.3 Overige granen				1.3.3 Other cereals		Nee / No	
	1.4 Mais				1.4 Maize			



Sector	Gewas (sub) groep	Gewassen / objecten	Eppo CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		Snijmaïs	ZEAMX			Forage maize	Ja / Yes	Voor pollen / For pollen
		Korrelmaïs				Grain maize	Ja / Yes	Voor pollen / For pollen
		Corn cob mix				Corn cob mix	Ja / Yes	Voor pollen / For pollen
		Maiskolvensilage				Corn cob silage	Ja / Yes	Voor pollen / For pollen
	1.5 Peulvruchten				1.5 Pulses			
	1.5.1 Droog te oogsten erwten				1.5.1 Peas (dry)			
		Kapucijner	PIBSA			Marrowfat pea	Ja / Yes	
		Gele erwt				Yellow pea	Ja / Yes	
		Grauwe erwt				Grey pea	Ja / Yes	
		Groene erwt				Green pea	Ja / Yes	
		Rozijnenerwt				Maple pea	Ja / Yes	
		Schokker				Brown Marrowfat	Ja / Yes	
		Suikererwt	PIBSZ			Sugar pea	Ja / Yes	
		Linze	LENCU			Lentil	Ja / Yes	
		Kikkererwt	CIEAR			Chickpea	Ja / Yes	
	1.5.2 Droog te oogsten bonen				1.5.2 Beans (dry)			
		Bruine boon	PHSVX			Brown bean	Ja / Yes	
		Gele boon				Yellow bean	Ja / Yes	
		Kievitsboon				Pinto bean	Ja / Yes	
		Witte boon				White bean (haricot)	Ja / Yes	
		Lupine	LUPAL			Lupin	Ja / Yes	
		Sojaboon	GLXMA			Soya bean	Ja / Yes	
	1.6 Graszaadteelt				1.6 Grass seed crops			
	1.6.1 Raaigras				1.6.1 Ryegrass			
		Engels raaigras	LOLPE			English ryegrass	Nee / No	
		Italiaans raaigras	LOLMU			Italian ryegrass	Nee / No	
		Frans raaigras	ARREL			False oatgrass	Nee / No	
		Westerwolds raaigras	LOLMG			Annual ryegrass	Nee / No	

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		Gekruist raaigras	LOLBO			Hybrid ryegrass	Nee / No	
		Overige raaigrassen				(Other) ryegrasses	Nee / No	
	1.6.2	Zwenkgras	FESSS		1.6.2	Fescue		
		Roodzwenkgras	FESRU			Red Fescue	Nee / No	
		Hardzwenkgras	FESOV			Sheep's Fescue	Nee / No	
		Rietzwenkgras	FESAR			Tall Fescue	Nee / No	
		Overige zwenkgrassen				Other fescues	Nee / No	
	1.6.3	Beemdgras	POASS		1.6.3	Bluegrass		
		Veldbeemd	POAPR			Kentucky bluegrass	Nee / No	
		Moerasbeemdgras	POAPA			Fowl bluegrass	Nee / No	
		Bosbeemdgras	POANE			Wood bluegrass	Nee / No	
		Beemdlangbloem	FESPR			Meadow fescue	Nee / No	
		Overige beemdgrassen				Other bluegrasses	Nee / No	
	1.6.4	Overige grassen			1.6.4	Other grasses		
		Timothee	PHLPR			Timothy-grass	Nee / No	
		Kropaar	DACGL			Cock's-foot	Nee / No	
		Struisgras	AGSSS			Colonial bent	Nee / No	
		Kamgras	CYXCR			Crested dog's-tail	Nee / No	
		Ruwe smele	DECCA			Tufted hair-grass	Nee / No	
		Fakkелgras	KOLSS			June grass	Nee / No	
		Overige graszaadgewassen				Other grass seed crops	Nee / No	
	1.7	Oliehoudende zaden			1.7	Oilseeds		
		Blauwmaanzaad	PAPSO			Poppy seeds	Ja / Yes	Voor pollen / For pollen
		Karwij	CRYCA			Caraway	Ja / Yes	
		Vlas	LIUUT			Flax	Ja / Yes	
		Mosterd	SINAL BRSNI			Mustard	Ja / Yes	

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		Koolzaad	BRSNN			Oilseed rape	Ja / Yes	
		Teunisbloem	OEOS			Evening primrose	Ja / Yes	
		Zonnebloem	HELAN			Common Sunflower	Ja / Yes	
		Huttentut	CMASA			Gold-of-pleasure	Ja / Yes	
		Crambe	CRMAB			Crambe	Ja / Yes	
		Overige oliehoudende zaden				Other oilseeds	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
	1.8 Vezelgewassen				1.8 Fibre crops			
		Hennep	CNISA			Hemp	Ja / Yes	Voor pollen / For pollen
		Vlas	LIJUT			Flax	Ja / Yes	
		Brandnetel	URTSS			Common nettle	Nee / No	
		Overige vezelgewassen				Other fibre crops	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
	1.9 Groenbemesters <sup>3</sup>				1.9 Green manure crops			
		1.9.1 Vlinderbloemige groenbemesters				1.9.1 Leguminous green manure crops		
		Klaver	TRFPR TRFRE TRFHY TRFIN TRFRS TRFAL MEDLU LOTCO			Clover	Ja / Yes	

<sup>3</sup> Indien bloei op het veld niet plaatsvindt, dan niet aantrekkelijk voor honingbijen. Zie ook toelichting.

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
			MEUAL					
		Lupine	LUPSS			Lupin	Ja / Yes	
		Voederwikke	VICSA			Common vetch	Ja / Yes	
		Serradella	OROSA			Serradella	Ja / Yes	
		Hanekam	CEOAR			Celosia	Ja / Yes	
		Esparcette	ONBVI			Esparcet	Ja / Yes	
		Veldboon	VICFX			Broad bean	Ja / Yes	
		Overige vlinderbloemige groenbemesters				Other leguminous green manure crops	Ja / Yes	
		1.9.2 Grasachtige groenbemesters				1.9.2 Gramineae green manure crops		
		Rogge	SECCE			Rye	Nee / No	
		Raaigras	LOLSS			Ryegrass	Nee / No	
		Japanse haver	AVESG			Black oat	Nee / No	
		1.9.3 Kruisbloemige groenbemesters				1.9.3 Cruciferae green manure crops		
		Bladrammenas	RAPSA			Oil radish	Ja / Yes	
		Koolzaad	BRSNN			oilseed rape	Ja / Yes	
		Gele mosterd	SINAL			Yellow mustard seed	Ja / Yes	
		Blad- en mergkool	BRSOM			Marrow-stem kale	Ja / Yes	Alleen bladkool voor zaadteelt. / Only marrow kale for seed production.
		1.9.4 Overige groenbemesters				1.9.4 Other green manure crops		
		Facelia	PHCTA			Tansy phacelia	Ja / Yes	
		Spurrie	SPRAR			Corn spurrey	Ja / Yes	

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		Afrikaantjes	TAGER			African Marigold	Ja / Yes	
		Raketblad	SOLSI			Sticky nightshade	Ja / Yes	
		Sudangras	SORSU			Sudangrass	Nee / No	
		Deder	CMASA			gold-of-pleasure	Ja / Yes	
		Bladraap	BRSRR			forage turnip	Ja / Yes	
		Zwaardherik	ERUVE			Arugula	Ja / Yes	
		Niger	GUIAB			niger-seed	Ja / Yes	
	1.10 Voedergewassen				1.10 Fodder crops			
	1.10.1 Vlinderbloemige voedergewassen				1.10.1 Leguminous fodder crops			
		Klaver	TRFPR TRFRE TRFH TRFIN TRFRS TRFAL TRFSS MEDLU LOTCO MEUAL			Clover	Ja / Yes	
		Luzerne	MEDSA			alfalfa	Ja / Yes	
		Voederwikke	VICSA			Common vetch	Ja / Yes	
		Lupine	LUPAL			Lupin	Ja / Yes	
		Hanekam	COEAR			Celosia	Ja / Yes	
		Esparcette	ONBVI			Esparcet	Ja / Yes	
		Veldboon voor silage	VICFX			Broad bean for ensilage	Ja / Yes	

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
	1.10.2	Overige voedergewassen			1.10.2	Other fodder crops		
		Stoppelknol	BRSRR			Forage turnip	Nee / No	
	1.11	Overige akkerbouwgewassen			1.11	Other arable crops		
	1.11.1				1.11.1			
		Witlof (pennenteelt)	CICIF			Witloof Chicory (roots)	Nee / No	
		Cichorei	CICIS			Large-rooted chicory	Nee / No	
		Boekweit	FAGES			Buckwheat	Ja / Yes	
		Hop	HUMLU			Common hop	Ja / Yes	Voor pollen / For pollen
		Meekrap	RBITI			Common madder	Ja / Yes	
		Miscanthus	MISSI			Chinese fairy grass	Nee / No	
		Olifantsgras	PESPU			Elephant grass	Nee / No	
		Quinoa	CHEQU			Quinoa	Nee / No	
		Wouw	RESLT			Wild woad	Ja / Yes	
		Sorghum	SORVU			Sorghum	Nee / No	
		Teff	ERATF			Teff	Nee / No	
<b>2. Cultuurgrasland</b>				<b>2. Cultivated grassland</b>				
	2.1	Voedergrasland			2.1	Fodder grassland		
		Weiland				Permanent pasture	Nee, tenzij er bloeiende onkruiden aanwezig zijn. / No, unless flowering weeds are present.	Bij meer dan twee bloeiende onkruiden per vierkante meter is er sprake van bloei. / Attractive when more than two flowering weeds per square meter are present.
		Maaigrasland				Mowing grassland	Nee, tenzij er bloeiende onkruiden	Bij meer dan twee bloeiende onkruiden per vierkante meter is er

Sector	Gewas (sub) groep		Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group		Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
									aanwezig zijn. / No, unless flowering weeds are present.	sprake van bloei. / Attractive when more than two flowering weeds per square meter are present.
	2.2 Graszodenteelt				2.2 Turf production				Nee / No	
<b>3. Fruitgewassen</b> Betreft alleen de productieteelt van te oogsten vruchten				<b>3. Fruit crops</b> Only refers to production of fruits						
	3.1 Groot fruit				3.1 Large fruits					
		3.1.1 Pitvruchten				3.1.1 Pome fruit				
			Appel	MABSD			Apple	Ja / Yes		
			Peer	PYUCO PYUPC			Pear	Ja / Yes		
			Kweepeer	CYDOB			Quince	Ja / Yes		
			Mispel	MSPGE			Common medlar	Ja / Yes		
			Overige pitvruchten				Other pome fruit	Ja / Yes		
		3.1.2 Steenvruchten				3.1.2 Stone fruit				
			Kers	PRNAV PRNCE			Sweet cherry Sour cherry	Ja / Yes Ja / Yes		
			Pruim	PRNDO			Plum	Ja / Yes		
			Abrikoos	PRNAR			Apricot	Ja / Yes		
			Perzik	PRNPS			Peach	Ja / Yes		
			Nectarine	PRNPN			Nectarine	Ja / Yes		
			Overige steenvruchten				Other stone fruit	Ja / Yes		
	3.2 Kleinfruit (Houtig kleinfruit is 3.2.2, 3.2.3 en 3.2.4 samen)				3.2 Small fruits (Woody small fruit consist of 3.2.2, 3.2.3 and 3.2.4)					
		3.2.1 Aardbei		FRAAN		3.2.1 Strawberries		Ja / Yes		

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		3.2.2 Bessen				3.2.2 Berries		
		Aalbes	RIBRU RIBNI			Currant	Ja / Yes	
		Kruisbes	RIBUC			Gooseberry	Ja / Yes	
		Blauwe bes	VACCO VACMY VACVI			Blueberry	Ja / Yes	
		Veenbes	VACOX VACMA			Small Cranberry	Ja / Yes	
		Moerbei	MORSS			Mulberry	Ja / Yes	
		Rozenbottel	ROSSS			Rose hip	Ja / Yes	
		Kiwibes	ATIAR			Kiwiberry	Ja / Yes	
		Vlierbes	SAMSS ABOSS HIORH			Elderberry	Ja / Yes	
		Overige bessen				Other berries	Ja / Yes	
		3.2.3 Druif				3.2.3 Grapes		
		Tafeldruif	VITVI			Table grapes	Ja / Yes	
		Wijndruif				Wine grapes	Ja / Yes	
		3.2.4 Braam- en framboos-achtigen (Rubus spp.)				3.2.4 Blackberry and raspberry family (Rubus spp.)		
		Braam	RUBFR			Blackberry	Ja / Yes	
		Framboos	RUBID RUBPH			Raspberry	Ja / Yes	
		Dauwbramen	RUBCA RUBLO RUBLO			Common dewberry	Ja / Yes	
		3.3 Noten				3.3 Tree Nuts		
		Hazelnoot	CYLAV			Hazelnut	Ja / Yes	



Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		Kastanje	CSNSS			Chestnut	Ja / Yes	
		Walnoot	IUGRE			Walnut	Ja / Yes	Voor pollen / For pollen
	3.4 Overige fruitsoorten				3.4 Other fruits			
		Vijg	FIUCA			Fig	Nee / No	
		Kiwi	ATIDE			Kiwi	Ja / Yes	
<b>4. Groenteteelt</b>				<b>4. Vegetable crops</b>				
	4.1 Bladgroenten				4.1 Leafy vegetables			
	4.1.1	Sla; <i>Lactuca</i> spp			4.1.1	Lettuce ( <i>Lactuca</i> spp.)		
			LACSS				Nee / No	
	4.1.2	Andijvie			4.1.2	Endive		
		Andijvie	CICEN			Endive	Nee / No	
	4.1.3	Spinazie-achtigen			4.1.3	Spinach family		
		Spinazie	SPQOL TEATE BRSRE AMADU			Spinach	Nee / No	
		Snijbiet	BEAVV			Chard	Nee / No	
		Tuinmelde	ATXHO			Garden orache	Nee / No	
		Postelein	POROS CLAPE			Purslane	Nee / No	
	4.1.4	Overige bladgroenten			4.1.4	Other leafy vegetables		
		Witlof (trekteelt)	CICIF			Witloof chicory (forced cultivation)	Nee / No	
		Waterkers	NAAOF			Watercress	Nee / No	
		Veldsla	VLLLO			Lamb's lettuce	Nee / No	
		Rucola	ERUVE			Rocket	Nee / No	
		Lamsoor	LIIVU			Sea lavender	Nee / No	
	4.1.5	Kiemgroenten			4.2.5	Vegetable sprouts		

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		Tuinkers	LEPSA			Garden cress	Nee / No	
		Taugé	PHSAU			Bean sprouts (Mung bean sprouts)	Nee / No	
		Alfalfa	MEDSA			Alfalfa	Nee / No	
		Rucolakers	ERUVE			Rucola cress	Nee / No	
		Overige kiemgroenten				Other vegetable sprouts	Nee / No	
	4.1.6	Baby leaves			4.1.6	Baby leaf crops	Nee / No	
	4.2	Peulgroenten			4.2	Legume vegetables (fresh)		
	4.2.1	Boon met peul			4.2.1	Beans with pod		
		Stamslaboon	PHSVN			Dwarf French bean	Ja / Yes	
		Stamsnijboon	PHSVN			Slicing bean	Ja / Yes	
		Stokslaboon	PHSVX			Climbing French bean	Ja / Yes	
		Stoksnijboon	PHSVX			Climbing slicing bean	Ja / Yes	
		Pronkboon	PHSCO			Scarlet runner bean	Ja / Yes	
		Kouseband	VIGSC VIGSI			Yardlong bean	Ja / Yes	
	4.2.2	Boon zonder peul			4.2.2	Beans without pod		
		Tuinboon	VICFX			Broad bean	Ja / Yes	
		Limaboon	PHSLU			Lima bean	Ja / Yes	
		Flageolet	PHSVX			Flageolets	Ja / Yes	
	4.2.3	Erwt met peul			4.2.3	Peas with pod		
		Peul	PIBSX			Mangetout	Ja / Yes	
		Asperge-erwt	TTGPU			Asparagus pea	Ja / Yes	
		Suikererwt	PIBSZ			sugar pea	Ja / Yes	
	4.2.4	Erwt zonder peul			4.2.4	Pea without pod		
		Doperwt	PIBSX			Green pea	Ja / Yes	

Sector	Gewas (sub) groep	Gewassen / objecten	EPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		Kapucijner	PIBSA			Field pea	Ja / Yes	
	4.3 Vruchtgroenten				4.3 Fruiting vegetables			
	4.3.1 Vruchtgroenten van Cucurbitaceae - eetbare schil				4.3.1 Fruiting vegetables of Cucurbits - edible peel			
		Augurk	CUMSG			Gherkin	Ja / Yes	
		Courgette	CUUPG CUUPM			zucchini	Ja / Yes	
		Komkommer	CUMSA			Cucumber	Ja / Yes	
	4.3.2 Vruchtgroenten van Cucurbitaceae - niet-eetbare schil				4.3.2 Fruiting vegetables of Cucurbits - non-edible peel			
		Pompoen-achtigen	CUUPE			Pumpkins	Ja / Yes	
		Meloen	CUMME			Melon	Ja / Yes	
		Watermeloen	CITLA			Watermelon	Ja / Yes	
	4.3.3 Vruchtgroenten van Solanaceae				4.3.3 Fruiting vegetables of Solanaceae			
		Aubergine	SOLME			Aubergine	Ja / Yes	
		Tomaat	LYPES			Tomato	Ja / Yes	
		Paprika	CPSAN CPSFR			Sweet pepper	Ja / Yes	
		Tomatillo	PHYIX			Husk tomato	Ja / Yes	
	4.3.4 Vruchtgroenten van Malvaceae				4.3.4 Fruiting vegetables of Malvaceae			
		Okra	ABMES			Okra	Ja / Yes	
	4.4 Koolgewassen				4.4 Brassica vegetables			
	4.4.1 Sluitkoolachtigen				4.4.1 Head cabbages			
		Sluitkool	BRSOL			Head cabbage	Nee / No	
		Spruitkool	BRSOF			Brussels Sprouts	Nee / No	
	4.4.2 Bloemkoolachtigen				4.4.2 Flowering brassica			

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		Bloemkool	BRSOB			Cauliflower	Nee / No	
		Broccoli	BRSOK			Broccoli	Nee / No	
	4.4.3 Bladkoolachtigen				4.4.3 Leafy brassica			
		Chinese kool	BRSPK			Chinese cabbage	Nee / No	
		Boerenkool	BRSOC			Curly kale	Nee / No	
	4.4.4 Stengelkool				4.4.4 Stern cabbage			
		Koolrabi	BRSOG			Kohlrabi	Nee / No	
	4.5 Wortel- en knolgewassen				4.5 Root and tuber vegetables			
	4.5.1 Radijs-achtigen				4.5.1 Radishes			
		Radijs	RAPSR			Small radish	Nee / No	
		Rammenas	RAPSN			Black/white radish	Nee / No	
	4.5.2 Wortelgewassen (Umbelliferae)				4.5.2 Root vegetables (Umbelliferae)			
		Wortelen	DAUCS			Carrots	Nee / No	
		Suikerwortel	SIUSI			Skirret	Nee / No	
		Wortelpeterselie	PARCT			Turnip-rooted parsley	Nee / No	
		Pastinaak	PAVSA			Parsnips	Nee / No	
	4.5.3 Overige wortel- en knolgewassen				4.5.3 Other root and tuber vegetables			
		Knolraap	BRSOG			Turnip cabbage	Nee / No	
		Koolraap	BRSNA			Swede	Nee / No	
		Aardpeer	HELTU			Jerusalem artichoke	Ja / Yes	
		Japanse aardappel	STASB			Japanese artichoke	Nee / No	
		Zoete aardappel	IPOBA			Sweet potato	Ja / Yes	
		Rode biet	BEAVD			Red beet	Nee / No	
		Knolselderij	APUGR			Celeriac	Nee / No	
		Schorseneer	SCVHI TROPS			Black salsify	Nee / No	

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		Mierikswortel	ARWLA			Horseradish	Nee / No	
		Yam	SIUSS			Yam	Nee / No	
	4.6 Ui-achtigen				4.6 Bulb vegetables			
	4.6.1. Uien				4.6.1. Onions			
		Zaaiui	ALLCE			Seed onion	Nee / No	
		Eerstejaars plantui				First year bulb onion	Nee / No	
		Tweedejaars plantui				Second year bulb onion	Nee / No	
		Zilverui				Silverskin onions	Nee / No	
		Picklers				Picklers	Nee / No	
	4.6.2 Sjalotten				4.6.2 Shallots			
		Zaaisjalot	ALLAS			Seed shallot	Nee / No	
		Plantsjalot				Bulb shallot	Nee / No	
	4.6.3 Bosuien				4.6.3 Spring onion			
		Bosui	ALLCE			Spring onion	Nee / No	
	4.6.4. Knoflook				4.6.4. Garlic			
		Knoflook	ALLSA			Garlic	Nee / No	
	4.7 Stengelgroenten				4.7 Stem vegetables			
		Asperge	ASPOF			Asparagus	Ja /Yes	
		Bleekselderij	APUGD			Celery	Nee / No	
		Kardoer	CYUCA			Cardoon	Nee / No	
		Rabarber	RHERH			Rhubarb	Nee / No	
		Knolvenkel	FOEVA			Fennel	Nee / No	
		Prei	ALLPO			Leek	Nee / No	
		Artisjok	CYUSC			Globe artichoke	Nee / No	
		Zeekool	CRMMA			Sea kale	Ja / Yes	
		Zeekraal	SAAEU			Marsh samphire	Nee / No	
	4.8 Overige groentegewassen				4.8 Other vegetable crops			

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		Suikermaïs	ZEAMS			Sweet corn	Ja / Yes	
<b>5. Kruidenteelt vers of gedroogd</b>				<b>5. Herbs fresh or dried</b>				
	5.1 Aromatische kruidgewassen				5.1 Aromatic herbs			
		Basilicum	OCIBA			Basil	Nee / No	
		Bieslook	ALLSC ALLTU			Chives	Nee / No	
		Bonenkruid	STIHO STIMO			Summer savory	Ja / Yes	
		Citroenmelisse	MLSOF			Lemon balm	Ja / Yes	
		Dille	AFEGR			Dill	Ja / Yes	
		Dragon	ARTDR			Tarragon	Ja / Yes	
		Hysop	HYSOF			Hyssop	Ja / Yes	
		Kervel	ARNCE			Chervil	Nee / No	
		Koriander	CORSA			Coriander	Ja / Yes	
		Peterselie	PARCR			Parsley	Nee / No	
		Maggiplant	LEWOF			Lovage	Nee / No	
		Majoraan	MAHJO			Marjoram	Ja / Yes	
		Oregano	ORIVU			Oregano	Ja / Yes	
		Munt	MENSS			Mint	Ja / Yes	
		Pimpernel	SANMI			Burnet	Ja / Yes	
		Rozemarijn	RMSOF			Rosemary	Ja / Yes	
		Salie	SALOF			Sage	Ja / Yes	
		Tijm	THYVU			Thyme	Ja / Yes	
		Venkel	FOEVD			Fennel	Ja / Yes	
		Bladselderij	APUGV			Celery leaves	Nee / No	
		Veldzuring	RUMAC			Sorrel	Nee / No	
		Overige aromatische				Other aromatic	Ja / Yes	Op het moment dat bloei

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		tuinkruiden				garden herbs		plaatsvindt. / When flowering occurs.
		Eetbare bloemen	CUUPG TAGER TOPMA CLDOF			Edible flowers	Ja / Yes	
5.2 Aromatische wortelgewassen				5.2 Aromatic root crops				
		Maggi	LEWOF			Lovage root	Nee / No	
		Engelwortel	ANKAR			Angelica	Ja / Yes	
		Bevernelwortel	PIMSA			Burnet Saxifrage root	Nee / No	
		wortelpeterselie	PARCT			turnip-rooted parsley	Nee / No	
		Overige aromatische wortelgewassen				Other aromatic root crops	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
5.3 Medicinale kruidgewassen				5.3 Medicinal herbs				
		Opgeblazen Lobelia	LOBIN			Indian tobacco	Nee / No	
		Wollig vingerhoedskruid	DIKLA			Woolly foxglove	Nee / No	
		Driekleurig viooltje	VIOTR			Wild pansy	Ja / Yes	
		Echte kamille	MATCH			Wild chamomile	Ja / Yes	
		Zonnehoed	RUDPU			Purple cone flower	Ja / Yes	
		Bekergoudsbloem	CLDOF			Pot marigold	Nee / No	
		Overige medicinale kruidgewassen				Other medicinal herbs	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
5.4 Medicinale wortelgewassen				5.4 Medicinal root crops				

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		Valeriaan	VALOF			Valerian	Ja / Yes	
		Ginseng	PNXGI			Asiatic ginseng	Nee / No	
		Zonnehoed	RUDPU			Purple coneflower root	Ja / Yes	
		Overige medicinale wortelgewassen				Other medicinal root crops	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
	5.5 Kruidenzaadgewassen				5. herb seed crops			
		Karwijzaad	CRYCA			Caraway	Ja / Yes	
		Blauwmaanzaad	PAPSO			Poppy seed	Ja / Yes	
		Overige kruidenzaadgewassen				Other seed herbs	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
<b>6. Paddenstoelenteelt</b>				<b>6. Mushrooms</b>				
	6.1 Eetbare paddenstoelen				6.1 Edible mushrooms			
		Champignon	AGARBI			Button mushroom	n.v.t. / n.a.	
		Oesterzwam	PLEUOS			Oyster mushroom	n.v.t. / n.a.	
		Overige paddestoelen	LENTED LPSTNU PHOLNA AGARAR COPNCO FLMUVE AGCYCY HYPZMA STPRRU GRIFFR			Other mushrooms	n.v.t. / n.a.	



Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
			GANOLU AURIAU AGARBZ					
<b>7. Sierteeltgewassen</b>				<b>7. Floriculture crops</b>				
	7.1 Bloembol- en bloemknolgewassen				7.1 Flower bulb and flower tuber crops			
		7.1.1 Bloembollen en bloemknollen				7.1.1 Flower bulbs and flower tubers	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
		7.1.2 Bolbloemen en knolbloemen				7.1.2 Bulb flower and tuber flower	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
	7.2 Bloemisterijgewassen				7.2 Ornamental crops			
		Potplanten				Pot plants	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
		Snijbloemen				Cut flowers	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
		Trekheesters				Forced shrubs	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
		Snijgroen				Cut green	Nee / No	
	7.3 Boomkwekerijgewassen				7.3 Tree nursery crops			
		Laanbomen				Avenue trees	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
		Klimplanten				Climbing plants	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
		Rozen				Roses	Ja / Yes	
		Coniferen				Conifers	Nee / No	
		Sierheesters				Ornamental shrubs	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
		Kerstbomen				Christmas trees	Nee / No	
		Heide soorten				Heather	Ja / Yes	
		Bos- en haagplantsoen				Forest trees and hedging plants	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
		Vruchtbomen en -struiken				Fruit trees and shrubs	Ja / Yes	
	7.4 Vaste plantenteelt				7.4 Perennial crops		Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
	7.5 Bloemenzaadteelt				7.5 Flower seed crops		Ja / Yes	
	7.6 Moeras- en Waterplanten				7.6 Marsh and Water plants		n.v.t. / n.a.	
	7.7 Veredelingsteelt en basiszaadproductie van akkerbouw-, groente- en fruitgewassen, kruiden en sierteeltgewassen.				7.7 Plant breeding crops and basic seed production for arable, vegetable and fruit crops, herbs and ornamental crops		Ja / Yes	Merendeel van deze gewassen is aantrekkelijk voor honingbijen. / Most crops in this group are attractive to honeybees.
<b>8. Openbaar groen en particuliere tuinen</b>				<b>8. Amenity areas</b>				
	8.1 Grasvegetatie				8.1 Managed amenity turf			

Sector	Gewas (sub) groep		Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group		Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
			Gazon					Lawn	Nee, tenzij er bloeiende onkruiden aanwezig zijn.	Bij meer dan twee bloeiende onkruiden per vierkante meter is er sprake van bloei. / Attractive when more than two flowering weeds per square meter are present.
			Speelweide					Playground	Nee, tenzij er bloeiende onkruiden aanwezig zijn.	Bij meer dan twee bloeiende onkruiden per vierkante meter is er sprake van bloei. / Attractive when more than two flowering weeds per square meter are present.
			Sportveld					Sports field	Nee, tenzij er bloeiende onkruiden aanwezig zijn.	Bij meer dan twee bloeiende onkruiden per vierkante meter is er sprake van bloei. / Attractive when more than two flowering weeds per square meter are present.
			Grasbermen					Grassy verges	Nee, tenzij er bloeiende onkruiden aanwezig zijn.	Bij meer dan twee bloeiende onkruiden per vierkante meter is er sprake van bloei. / Attractive when more than two flowering weeds per square meter are present.
	8.2 Houtige beplanting					8.2 Woody plantings				
			Laan- en perkbomen					Avenue and border	Ja / Yes	Op het moment dat bloei

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
						trees		veld plaatsvindt. / When flowering occurs.
		Windsingels, windschermen en windhagen				Shelter belts, windbreaks and hedgerows	Ja / Yes	Op het moment dat bloei plaatsvindt. Afhankelijk van de soort en de snoei. / When flowering occurs. Dependent on species and pruning.
		Overige houtige beplantingen				Other woody plantings	Ja / Yes	Op het moment dat bloei plaatsvindt. Afhankelijk van de soort en de snoei. / When flowering occurs. Dependent on species and pruning.
	8.3 Kruidachtige beplanting				8.3 Herbaceous plantings		Ja / Yes	Op het moment dat bloei plaatsvindt. /When flowering occurs.
<b>9. Bosbouw</b>				<b>9. Forestry</b>				
	9.1 Loofhout				9.1 Broad-leaved trees		Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
	9.2 Naaldhout				9.2 Coniferous trees		Nee / No	
<b>10. Onbeteeld terrein</b>				<b>10. Uncultivated land</b>				
	10.1 Tijdelijk onbeteeld terrein				10.1 Temporarily uncultivated terrain			
		Kaalslagterrein				Deforestation area	n.v.t. / n.a.	
		Tijdelijk onbeteeld land				Temporarily uncultivated land.	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
	10.2 Permanent onbeteeld terrein				10.2 Permanently uncultivated land			

Sector	Gewas (sub) groep		Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group		Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
			Akkerranden					Buffer areas of fields	Ja / Yes	Als er sprake is van bloei. Bij meer dan twee bloeiende planten per vierkante meter is er sprake van bloei. / When flowering occurs. Attractive when more than two flowering weeds per square meter are present.
			Gesloten verharding					Hard surfaces	n.v.t. / n.a.	
			Half open verharding					Half open surfaces	n.v.t. / n.a.	
			Open verharding					Permeable surfaces	n.v.t. / n.a.	
			Onverhard terrein					Unpaved surfaces	n.v.t. / n.a.	
<b>11. Watergangen</b>				<b>11. Water courses</b>						
			11.1 (droog) Talud					11.1 (dry) slope	n.v.t. / n.a.	
			11.2 Droge slootbodems					11.2 Dry ditches	n.v.t. / n.a.	
			11.3 Watervoerende watergangen					11.3 Water courses which contain water	n.v.t. / n.a.	
			11.4 Onderhoudspaden van watergangen					11.4 Maintenance paths of water courses	n.v.t. / n.a.	
			11.5 Vijvers					11.5 Ponds	n.v.t. / n.a.	Oeverplanten worden vaak frequent bevlogen. / Honeybees frequently forage on littoral plants
<b>12. Riet- en wilgenteelt</b>				<b>12. Reed and osier crops</b>						
			Snijteen					Osier	n.v.t. / n.a.	
			Riet					Reed	n.v.t. / n.a.	
<b>13. Afvalhopen</b>				<b>13. Refuse heaps</b>						
<b>14. Voorraadbescherming opgeslagen producten</b>				<b>14. Stored products</b>						
			14.1 Eetbare producten in opslag					14.1 Edible products	n.v.t. / n.a.	
			14.2 Niet-eetbare producten in opslag					14.2 Non-edible products	n.v.t. / n.a.	

Sector	Gewas (sub) groep	Gewassen / objecten	EPPO CODE	Sector	Crop (sub) group	Crops/Objects	Aantrekkelijk voor honingbijen / Attractive to honeybees	Opmerkingen / Remarks
	14.3 Lege voorraadruimten				14.3 Empty storage facilities		n.v.t. / n.a.	
<b>15. Ontsmettingsmiddelen</b>				<b>15. Disinfectants</b>			n.v.t. / n.a.	

n.v.t. = niet van toepassing / n.a. = not applicable

**Niet-professioneel gebruik / Amateur use**

Sector	Gewas (sub) groep	Sector	Crop (sub) group	Aantrekkelijk voor honingbijen	Opmerkingen
<b>16. In en om het huis binnen de privé-sfeer</b>		<b>16. In and around the house (private garden)</b>			
	16.1 Sierbeplanting (planten in de vollegrond)		16.1 Ornamental garden plants (field crops)	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
	16.2 Moestuin (eetbare gewassen in open lucht en/of kas)		16.2 vegetable garden (edible crops protected or open field)	Ja / Yes	Op het moment dat bloei plaatsvindt. / When flowering occurs.
	16.3 Kamerplanten		16.3 Houseplants	n.v.t. / n.a.	
	16.4 Kuipplanten		16.4 Patio plants	Ja / Yes	
	16.5 Gazons		16.5 Lawn	Nee, tenzij er bloeiende onkruiden aanwezig zijn	Bij meer dan twee bloeiende onkruiden per vierkante meter is er sprake van bloei. / Attractive when more than two flowering weeds per square meter are present.
	16.6 Weilanden		16.6 Permanent pasture	Nee, tenzij er bloeiende	Bij meer dan twee bloeiende onkruiden per vierkante meter is

			onkruiden aanwezig zijn	er sprake van bloei. / Attractive when more than two flowering weeds per square meter are present.
	16.7 Open verhardingen (grind, schelpen etc.)	16.7 Permeable surfaces (gravel, shells etc)	n.v.t. / n.a.	
	16.8 Halfopen verhardingen (tegels, straatstenen, etc).	16.8 Half open surfaces (paving stones, paving bricks etc)	n.v.t. / n.a.	
	16.9 Dichte verhardingen (beton, etc.)	16.9 Hard surfaces (concrete, etc)	n.v.t. / n.a.	
	16.10 Onverharde terreinen	16.10 Unpaved area	n.v.t. / n.a.	

n.v.t. = niet van toepassing / n.a. = not applicable

**Bijlage 1: Wijzigingenbeheer / Appendix 1: Revision overview**

Wijzigingen van versie 1.0 naar 2.0:

		<b>Versie 1.0 was</b>	<b>Versie 2.0 wordt</b>
	Versie DTG-lijst	2.0, juni 2011	2.1, juni 2015
1.1	Aardappelen	Niet aantrekkelijk	Aantrekkelijk (voor pollen)
1.7	Blauwmaanzaad	Aantrekkelijk	Aantrekkelijk (voor pollen)
1.8	Hennep	Niet aantrekkelijk	Aantrekkelijk (voor pollen)
1.9.2	Japanse haver	-	Niet aantrekkelijk
1.11.1	Hop	Niet aantrekkelijk	Aantrekkelijk (voor pollen)
	Miscanthus	-	Niet aantrekkelijk
	Quinoa	-	Niet aantrekkelijk
	Wouw	-	Aantrekkelijk
	Sorghum	-	Niet aantrekkelijk
3.3	Walnoot	Niet aantrekkelijk	Aantrekkelijk (voor pollen)
4.1.6	Baby leaves	-	Niet aantrekkelijk
4.3.3	Tomatillo	-	Aantrekkelijk
4.7	Zeekraal	-	Niet aantrekkelijk
5.3	Driekleurig viooltje	Niet aantrekkelijk	Aantrekkelijk

Changes from version 1.0 to 2.0:

		<b>Version 1.0 was</b>	<b>Versie 2.0 is</b>
	Versie DTG-lijst	2.0, June 2011	2.1, June 2015
1.1	Potatoes	Not attractive	Attractive (for pollen)
1.7	Poppy seeds	Aantrekkelijk	Attractive (for pollen)
1.8	Hemp	Not attractive	Attractive (for pollen)
1.9.2	Black oat	-	Not attractive
1.11.1	Common hop	Not attractive	Attractive (for pollen)
	Chinese fairy grass	-	Not attractive
	Quinoa	-	Not attractive
	Wild woat	-	Attractive
	Sorghum	-	Not attractive
3.3	Walnut	Not attractive	Attractive (for pollen)
4.1.6	Baby leaf crops	-	Not attractive
4.3.3	Husk tomato	-	Attractive
4.7	Marsh samphire	-	Not attractive
5.3	Wild pansy	Not attractive	Attractive



**Appendix II-2 Relevance of dust for treated seeds****MATRIX 'RELEVANCE OF DUST FOR PESTICIDE TREATED SEEDS'**

version 15 September 2010

Sources: Plantum NL (seed companies and seed treatment companies); information checked and complemented by pesticides manufacturers (Bayer CropScience, Syngenta Crop Protection, BASF), contractors (Cumela), growers (LTO Netherlands)

crop	Direct sowing, or transplanting?	If direct sowing outdoors, pneumatic? <sup>1</sup>	seed treatment technology <sup>2</sup>	Conclusion on dust <i>formation</i> (and potential risk for non-target organisms) <sup>3</sup>
<b>arable crops</b>				
beet (sugar and fodder)	Direct sowing	No, mechanical seed drill equipment	pelleting, with active ingredient not on the outside of the seed but closed in by an inert layer; new development: filmcoating on top of the pellet	not relevant, due to pelleting and filmcoating (and mechanical drilling)
corn	Direct sowing	Yes, 90% vacuum principle (but nowadays modified machines with airflows directed downwards)	basis seed treatment direct on the seed (active ingredient can be present on the outside surface of the seed)	Relevant
sweetcorn	Direct sowing	Yes, 90% vacuum principle (but nowadays modified machines with airflows directed downwards)	basic seed treatment / basic coating	Relevant
cereals	Direct sowing	mostly mechanical seed drill equipment, pneumatic with vacuum principle upcoming	basic seed treatment / basic coating	Relevant
flax	Direct sowing	mostly mechanical seed drill equipment, pneumatic with vacuum principle	basic seed treatment / basic coating	Relevant

		upcoming		
oilseed rape	Direct sowing	mostly mechanical seed drill equipment, pneumatic with vacuum principle upcoming	basic seed treatment / basic coating	Relevant
poppy seed	Direct sowing	mostly mechanical seed drill equipment, pneumatic (both with vacuum and gauge pressure principle) is possible as well	basic seed treatment / basic coating	Relevant
grasses, grasseed	Direct sowing	both mechanical and pneumatic (vacuum) are possible	basic seed treatment / basic coating	Relevant
caraway	Direct sowing	both mechanical and pneumatic (vacuum) are possible	This crop has no seed treatments.	not relevant, since no seed treatments
alfalfa	Direct sowing	both mechanical and pneumatic (vacuum) are possible	This crop has no seed treatments.	not relevant, since no seed treatments
green manure crops	Direct sowing	both mechanical and pneumatic (vacuum) are possible	This crop has no seed treatments.	not relevant, since no seed treatments
<b>outdoor vegetables</b>				
onion	Direct sowing	yes, for 90% of the seed (vacuum, but exhaust air not deflected upwards)	filmcoating/rotostat; part of the market extra top layer	not relevant due to high quality coating

leek	Most sowing in seed beds and transplanting later, approximately 10% direct sowing. Mostly sowing outdoors, some sowing indoors in trays.	yes (vacuum, but exhaust air not deflected upwards)	filmcoating/rotostat; part of the market extra top layer	not relevant due to high quality coating
carrot	Direct sowing	yes (vacuum, but exhaust air not deflected upwards)	filmcoating/rotostat; part of the market extra top layer	not relevant
chicory, endive	Direct sowing	mainly coated seed, pneumatic (vacuum but exhaust air not deflected upwards); also pelleted seeds, sown mechanically	filmcoating/rotostat	not relevant
beetroot	Direct sowing, small percentage indoors.	yes (vacuum, but exhaust air not deflected upwards)	basic coating	relevant
spinach	Direct sowing	mainly mechanically drilled, pneumatic equipment upcoming (both vacuum and gauge pressure principle)	basic coating, partly filmcoating, and sometimes toplayer	relevant
beans, peas	Direct sowing	both mechanical and pneumatic (vacuum but exhaust air not deflected upwards) are possible	basic seed treatment / basic coating	relevant
asparagus	Sowing in seed beds, later transplanted.	yes (vacuum, but exhaust air not deflected upwards)	filmcoating/rotostat	Not relevant
<b>greenhouse vegetables</b>				
radish	Direct sowing, partly indoors, small percentage outdoors.	yes (vacuum, but exhaust air not deflected upwards)	filmcoating/rotosat	not relevant
lettuce, including lettuce-like (radichio rosso, endive,	All these crops are only sown and raised to young plants indoors; later transplanted	not applicable	pelleting, with active ingredient not on the outside of the seed but closed in by an inert layer	not relevant

etcetera)	indoors or outdoors.			
corn salad	Direct sowing, in the Netherlands only grown indoors.	not applicable		not relevant
brassica, including head cabbages, Brussels sprouts, cauliflower, broccoli, Chinese cabbage, kale	All these crops are only sown and raised to young plants indoors; later transplanted indoors or outdoors.	not applicable	filmcoating/rotostat, and sometimes top layer	not relevant
celeriac	Sown indoors, later transplanted outdoors.	not applicable		not relevant
fruiting vegetables (tomatoes, cucumber, weet pepper, eggplant, etcetera)	Plant raising and cultivation only indoors.	not applicable	sometimes fungicide treatments, no insecticide treatments	not relevant
<b>ornamentals</b>				
several ornamental crops from seed	Cultivation both indoors and outdoors; many crops through plant raising indoors; limited crops directly sown outdoors.		sometimes fungicide treatments, no insecticide treatments yet; if used: filmcoating (high value seeds)	not relevant

1: Mechanical seed drill equipment does not work with air and therefore can not release air flows. With pneumatic seed drill equipment there are two principles: using the vacuum principle and using the gauge pressure principle. When using the gauge pressure principle there is no more air replacement (with potential dust) than with mechanical seed drill equipment. When using the vacuum principle seeds are put in the sowing row by vacuum and the excess air will come free. At conventional corn sowing machines, this exhaust air was directed upwards. Meanwhile, these machines (mostly) are modified: they have deflectors directing the exhaust air downwards to the soil. For vegetable vacuum seed drilling machines the airflows already always were directed towards the soil.

2: There is no complete one-on-one relationship crop - seed treatment: which method is used also depends on e.g. the type of pesticide used, the composition of that pesticide and whether multiple pesticides are used, seed type (smooth, rough, etc.), to a certain extent for which market the seed is treated, etc. Also, various terms are used. This table presents an indication. In general, the more valuable the seed is, the higher quality (and more expensive) seed treatment technology can be used. Furthermore: coating means stickers (polymers) are used; in basic coating the pesticide can irregularly be distributed over the seed, in film coating a regular layer is spread over the seed (used for somewhat higher valuable seeds); a part of the market has on top of that a top layer (without active ingredient). And in any case, insecticide-treated seeds are generally coloured, so this colour layer is on top of the layer with active substance, on the outside surface.

3: dust *distribution* (depending on type of seed drill equipment used) is not yet taken into account here: so risks can still be 'not relevant' due to the sowing method, and whether dust is spread by this method.

**Appendix II-3 Attractiveness of agricultural crops to honeybees and other pollinators for the collection of honeydew**

**Attractiveness of agricultural crops to honeybees and other pollinators for the collection of honeydew**

**Version 1.0**

## Introduction

### Preface

The Ctgb evaluates the potential risks of plant protection products to non-target organisms, including bees and other pollinators. Plant protection products may negatively influence bees and other pollinators via residues in the nectar and pollen of treated plants (see also the bee attractive plants list). In addition to attractiveness due to the presence of nectar or pollen, crops may be visited by honeybees and other pollinators to collect honeydew produced by aphids or other insects. For these crops, the exposure route via honeydew is included in the risk assessment. In 1997, a list of crops that can be infested by aphids (and for which thus bee-attractive honeydew may be present), was published by the Plant Protection Service, as an Appendix to the 'Project Risk Control Honeybee'. This list has now been updated to follow the Dutch crop hierarchy list. Furthermore, other honeydew producing pests besides aphids have now been taken into account. The list is made by the NVWA (Netherlands Food and Consumer Product Safety Authority).

### Explanation of the list

The honeydew list gives information on the possibility of the presence of honeydew on crops which may result in attractiveness to bees and other pollinators. The list contains an overview of most agricultural crops in the Netherlands. This crop hierarchy is based on the Dutch crop definition list (DTG list, version 2.1, Ctgb June 2015).

Aphids, mealybugs and scale insects, whiteflies, cicadas, and psyllids are honeydew producing insects. The presence of these insects on agricultural crops in the Netherlands was taken into account in this list. The fungus *Claviceps purpurea* (ergot), a cereal pathogen, produces a fluid that is similar to honeydew. However, because of the use of disinfected seed and the legal norms for ergot on cereals for feed and food, this fungus hardly occurs in The Netherlands anymore. Therefore, this fungus has not been taken into account in this list.

Bees (honeybees, but also other pollinator species) may forage on honeydew as a source of sugar. As a food source, honeydew can be far inferior to nectar, based on sugar composition, amino acid composition and the presence of plant secondary chemicals (16). However, honeydew on crops may be a significant food source at times of limited, or less attractive, alternative food sources (16, 45). The sugar content of aphid honeydew is highly influenced by both the species of aphid and the host plant. The quantity of honeydew per individual is also influenced by many factors (temperature, light, humidity etc.)(10). Since the quality and quantity of honeydew strongly depends on many factors (e.g. environmental factors), it is not possible to take these into account in this list.

Therefore, this list only shows whether honeydew may occur on a crop/crop group, and makes no differentiation for quality or quantity of honeydew.

Three columns have been added to the DTG list (version 2.1):

*1. Is the crop a host for honeydew producing insects?*

(yes, name of insect species/ probably yes<sup>1</sup>/ no/ no information available).

<sup>1</sup> "Probably yes": In information source(s) on pests in this crop, no honeydew producing organisms are mentioned. However, the experts expect that they do occur, but are not regarded as an important pest.

*2. Agricultural context in the Netherlands.*

Are honeydew producing insects tolerated in good agricultural practices or are they strictly controlled? This column is not filled if the crop/crop group is not a host, or if no information about the host status is available. When it is stated that honeydew producing insects are tolerated to a certain level, this means that insect control does take place, but is not very strict, hence making the formation of honeydew nonetheless possible.

*3. Conclusion - Can honeydew occur on this crop/crop group?*

If the conclusion is 'no', the presence of honeydew on the crop in the Netherlands is negligible. If the conclusion is 'yes', this means that honeydew may occur on the crop and there is a chance that bees or other pollinating insects forage on honeydew on this crop. In that case, the Ctgb will consider the risk via honeydew in the risk assessment. In case no information is available, the Ctgb will also consider the risk via honeydew, as a worst-case approach.

If possible, the information is given per crop group. For minor crops particularly, it is not always known if honeydew may be present. If conclusions differ within a crop group, the information is given per crop.

Gewassen die op meerdere plaatsen op de DTG-lijst (versie 2.1) staan, zijn in de DTG-lijst gemarkeerd met een asterisk (\*)/ Crops that are mentioned at more places in the DTG-list are marked with an asterisk.

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	EPPO code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
<b>1. Akkerbouwgewassen</b>					<b>1. Arable crops</b>						
	1.1 Aardappelen				1.1 Potatoes						
		Pootaardappel		SOLTU			Seed potato		yes, aphids (4)	Aphids are not tolerated because of virus transmission. Growers control infestations very well.	no
		Consumptieaardappel					Ware potato		yes, aphids (4)	Aphids are tolerated to a certain level. Honeydew may occur (15, 16, 42). In The Netherlands (7) and Germany there have been incidents of bee poisoning via honeydew on ware/starch potatoes (1)	yes
		Zetmeelaardappel					Starch potato		yes, aphids (4)	see ware potato	yes
	1.2 Bieten				1.2 Beet				yes, aphids (4, 21, 26)	Aphids are tolerated to a certain level.	yes
		Suikerbiet		BEAVA			Sugar beet		see 1.2 Beet	see 1.2 Beet	yes
		Voederbiet		BEAVC			Fodder beet		see 1.2 Beet	see 1.2 Beet	yes
	1.3 Granen				1.3 Cereals				yes, aphids (4, 22, 23, 24, 25, 27, 42)	Aphids are tolerated to a certain level.	yes
	1.3.1 Wintergraan				1.3.1 Winter cereals				see 1.3 Cereals	see 1.3 Cereals	yes
		Wintertarwe		TRZAW			Winter wheat		see 1.3 Cereals	see 1.3 Cereals	yes
		Wintergerst		HORVW			Winter barley		see 1.3 Cereals	see 1.3 Cereals	yes
		Winterrogge*		SECCW			Winter rye*		see 1.3 Cereals	see 1.3 Cereals	yes
		Triticale		TTLSS			Triticale		see 1.3 Cereals	see 1.3 Cereals	yes

<sup>4</sup> Does honeydew occur on this crop/crop group?

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		Spelt		TRZSP			Spelt		see 1.3 Cereals	see 1.3 Cereals	yes
		Kanariezaad (kanariegras)		PHACA			Canary grass		see 1.3 Cereals	see 1.3 Cereals	yes
		1.3.2 Zomergraan					1.3.2 Spring cereals		see 1.3 Cereals	see 1.3 Cereals	yes
		Zomertarwe		TRZAS			Spring wheat		see 1.3 Cereals	see 1.3 Cereals	yes
		Zomergerst		HORVS			Spring barley		see 1.3 Cereals	see 1.3 Cereals	yes
		Zomerrogge*		SECCS			Spring rye*		see 1.3 Cereals	see 1.3 Cereals	yes
		Haver		AVESA			Oats		see 1.3 Cereals	see 1.3 Cereals	yes
		1.3.3 Overige granen					1.3.3 Other cereals		see 1.3 Cereals	see 1.3 Cereals	yes
	1.4 Maïs						1.4 Maize		yes, aphids (6, 28) Honeybees have been shown to exploit honeydew from aphid-infested maize in Europe (3, 13).	Aphids are tolerated to a certain level.	yes
		Snijmaïs		ZEAMX			Forage maize		see 1.4 Maize	see 1.4 Maize	yes
		Korrelmaïs					Grain maize		see 1.4 Maize	see 1.4 Maize	yes
		Corn cob mix					Corn cob mix		see 1.4 Maize	see 1.4 Maize	yes
		Maiskolvensilage					Corn cob silage		see 1.4 Maize	see 1.4 Maize	yes
	1.5 Peulvruchten						1.5 Pulses		yes, aphids (4, 29, 38, 44)	Aphids are tolerated to a certain level.	yes
		1.5.1 Droog te oogsten erwten					1.5.1 Peas (dry)		see 1.5 pulses	see 1.5 pulses	yes
		Kapucijner		PIBSA			Marrowfat pea		see 1.5 pulses	see 1.5 pulses	yes
		Gele erwt					Yellow pea		see 1.5 pulses	see 1.5 pulses	yes
		Grauwe erwt					Grey pea		see 1.5 pulses	see 1.5 pulses	yes
		Groene erwt					Green pea		see 1.5 pulses	see 1.5 pulses	yes
		Rozijnenerwt					Maple pea		see 1.5 pulses	see 1.5 pulses	yes
		Schokker					Brown Marrowfat		see 1.5 pulses	see 1.5 pulses	yes



Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		Suikererwt		PIBSZ			Sugar pea		see 1.5 pulses	see 1.5 pulses	yes
		Linze		LENCU			Lentil		see 1.5 pulses	see 1.5 pulses	yes
		Kikkererwt		CIEAR			Chickpea		see 1.5 pulses	see 1.5 pulses	yes
	1.5.2 Droog te oogsten bonen					1.5.2 Beans (dry)			see 1.5 pulses	see 1.5 pulses	yes
		Bruine boon		PHSVX			Brown bean		see 1.5 pulses	see 1.5 pulses	yes
		Gele boon					Yellow bean		see 1.5 pulses	see 1.5 pulses	yes
		Kievitsboon					Pinto bean		see 1.5 pulses	see 1.5 pulses	yes
		Witte boon					White bean (haricot)		see 1.5 pulses	see 1.5 pulses	yes
		Lupine*		LUPAL			Lupin*		see 1.5 pulses	see 1.5 pulses	yes
		Sojaboon		GLXMA			Soya bean		see 1.5 pulses	see 1.5 pulses	yes
	1.6 Graszaadteelt					1.6 Grass seed crops			yes, aphids (4, 5)	Aphids are tolerated to a certain level.	yes
	1.6.1 Raaigras*			LOLSS		1.6.1 Ryegrass*			see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Engels raaigras		LOLPE			English ryegrass		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Italiaans raaigras		LOLMU			Italian ryegrass		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Frans raaigras		ARREL			False oatgrass		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Westerwolds raaigras		LOLMG			Annual ryegrass		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Gekruist raaigras		LOLBO			Hybrid ryegrass		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Overige raaigrassen					(Other) ryegrasses		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
	1.6.2 Zwenkgras			FESSS		1.6.2 Fescue			see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Roodzwenkgras		FESRU			Red Fescue		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Hardzwenkgras		FESOV			Sheep's Fescue		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	EPPO code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		Rietzwenkgras		FESAR			Tall Fescue		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Overige zwenkgrassen					Other fescues		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		1.6.3 Beemdgras		POASS			1.6.3 Bluegrass		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Veldbeemd		POAPR			Kentucky bluegrass		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Moerasbeemdgras		POAPA			Fowl bluegrass		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Bosbeemdgras		POANE			Wood bluegrass		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Beemdlangbloem		FESPR			Meadow fescue		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Overige beemdgrassen					Other bluegrasses		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		1.6.4 Overige grassen					1.6.4 Other grasses		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Timothee		PHLPR			Timothy-grass		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Kropaar		DACGL			Cock's-foot		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Struisgras		AGSSS			Colonial bent		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Kamgras		CYXCR			Crested dog's-tail		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Ruwe smele		DECCA			Tufted hair-grass		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Fakkelgras		KOLSS			June grass		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		Overige graszaadgewassen					Other grass seed crops		see 1.6 Grass seed crops	see 1.6 Grass seed crops	yes
		1.7 Oliehoudende zaden					1.7 Oilseeds		yes, aphids (4, 30, 31, 32)	Aphids are tolerated to a certain level.	yes
		Blauwmaanzaad*		PAPSO		-	Poppy seeds*		see 1.7 Oilseeds	see 1.7 Oilseeds	yes
		Karwij*		CRYCA			Caraway*		see 1.7 Oilseeds	see 1.7 Oilseeds	yes

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>	
		Vlas*	lijnzaad (consumptie en zaaizaad) en vezelvas	LIUUT			Flax*	Linseed (consumption and seed production) and fibre flax	see 1.7 Oilseeds	see 1.7 Oilseeds	yes	
		Mosterd *	Gele of witte mosterd	SINAL			Mustard *	Yellow or white mustard	see 1.7 Oilseeds	see 1.7 Oilseeds	yes	
			zwarte- en bruine mosterd	BRSNI				Black and brown mustard	see 1.7 Oilseeds	see 1.7 Oilseeds	yes	
		Koolzaad *	winter en zomerkoolzaad, incl. raapzaad	BRSNN			Oilseed rape*	Winter- and spring oilseed rape, including rapeseed	see 1.7 Oilseeds	see 1.7 Oilseeds	yes	
		Teunisbloem		OEOS			Evening primrose		see 1.7 Oilseeds	see 1.7 Oilseeds	yes	
		Zonnebloem		HELAN			Common Sunflower		see 1.7 Oilseeds	see 1.7 Oilseeds	yes	
		Huttentut		CMASA			Gold-of-pleasure		see 1.7 Oilseeds	see 1.7 Oilseeds		
		Crambe		CRMAB			Crambe		see 1.7 Oilseeds	see 1.7 Oilseeds		yes
		Overige oliehoudende zaden					Other oilseeds		see 1.7 Oilseeds	see 1.7 Oilseeds	yes	
1.8 Vezelgewassen					1.8 Fibre crops							
		Hennep		CNISA		-	Hemp		yes, aphids and whiteflies (5)		yes	
		Vlas*	lijnzaad (zaaizaad) en vezelvas	LIUUT			Flax*	Linseed (seed production) and fibre flax	yes, aphids (4)	Aphids are tolerated to a certain level.	yes	
		Brandnetel		URTSS			Common nettle		yes, aphids (33)		yes	
		Overige vezelgewassen					Other fibre crops		no information available	no information available	no information available	
1.9 Groenbemesters					1.9 Green manure crops							

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	EPP0 code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		1.9.1 Vlinderbloemige groenbemesters					1.9.1 Leguminous green manure crops		yes, aphids (see 1.5 pulses)	No insect control is carried out.	yes
		Klaver*	rode klaver	TRFPR			Clover *	red clover	see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
			witte klaver	TRFRE				white clover	see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
			bastaardklaver	TRFHY				alslike clover	see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
			inkarnaatklaver	TRFIN				carnation clover	see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
			Perzische klaver	TRFRS				Persian clover	see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
			Alexandrijnse klaver	TRFAL				berseem clover	see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
			hopklaver	MEDLU				hop clover	see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
			rolklaver	LOTCO				birds-foot trefoil	see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
			witte honingklaver overige klaver soorten	MEUAL				honey clover	see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
						other clover species	see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes		
		Lupine*		LUPSS			Lupin*		see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
		Voederwikke*		VICSA			Common vetch*		see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
		Serradella		OROSA			Serradella		see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
		Hanekam*		CEOAR			Celosia *		see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
		Esparcette*		ONBVI			Esparcet*		see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		Veldboon*		VICFX			Broad bean*		see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
		Overige vlinderbloemige groenbemesters					Other leguminous green manure crops		see 1.9.1 Leguminous green manure crops	see 1.9.1 Leguminous green manure crops	yes
		1.9.2 Grasachtige groenbemesters				1.9.2 Gramineae green manure crops			yes, aphids (see 1.3 cereals)	No insect control is carried out.	yes
		Rogge*		SECCE			Rye*		see 1.9.2 Gramineae green manure crops	see 1.9.2 Gramineae green manure crops	yes
		Raaigras*	Italiaans raaigras Westerwolds raaigras	LOLSS			Ryegrass*	Italian ryegrass	see 1.9.2 Gramineae green manure crops	see 1.9.2 Gramineae green manure crops	yes
	Engels raaigras		Annual ryegrass		see 1.9.2 Gramineae green manure crops			see 1.9.2 Gramineae green manure crops	yes		
			English ryegrass		see 1.9.2 Gramineae green manure crops			see 1.9.2 Gramineae green manure crops	yes		
		Japanse haver		AVESG			Black oat		see 1.9.2 Gramineae green manure crops	see 1.9.2 Gramineae green manure crops	yes
		1.9.3 Kruisbloemige groenbemesters				1.9.3 Cruciferae green manure crops			yes, aphids (17, 31, see 4.4 Brassica vegetables)	No insect control is carried out.	yes
		Bladrammenas		RAPSA			Oil radish		see 1.9.3 Cruciferae green manure crops	see 1.9.3 Cruciferae green manure crops	yes
		Koolzaad*		BRSNN			oilseed rape*		see 1.9.3 Cruciferae green manure crops	see 1.9.3 Cruciferae green manure crops	yes
		Gele mosterd*		SINAL			Yellow mustard seed*		see 1.9.3 Cruciferae green manure crops	see 1.9.3 Cruciferae green manure crops	yes
		Blad- en mergkool		BRSOM			Marrow-stem kale		see 1.9.3 Cruciferae green manure crops	see 1.9.3 Cruciferae green manure crops	yes
		1.9.4 Overige groenbemesters				1.9.4 Other green manure crops			yes, aphids (44)	No insect control is carried out.	yes

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	EPPO code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		Facelia		PHCTA			Tansy phacelia		see 1.9.4 Other green manure crops	see 1.9.4 Other green manure crops	yes
		Spurrie		SPRAR			Corn spurrie		see 1.9.4 Other green manure crops	see 1.9.4 Other green manure crops	yes
		Afrikaantjes	Tagetes	TAGER			African Marigold		see 1.9.4 Other green manure crops	see 1.9.4 Other green manure crops	yes
		Raketblad		SOLSI			Sticky nightshade		see 1.9.4 Other green manure crops	see 1.9.4 Other green manure crops	yes
		Sudangras		SORSU			Sudangrass		see 1.9.4 Other green manure crops	see 1.9.4 Other green manure crops	yes
		Deder		CMASA			gold-of-pleasure		see 1.9.4 Other green manure crops	see 1.9.4 Other green manure crops	yes
		Bladraap	raapzaad, stoppelknol of meiraap	BRSRR			forage turnip		see 1.9.4 Other green manure crops	see 1.9.4 Other green manure crops	yes
		Zwaardherik		ERUVE			Arugula		see 1.9.4 Other green manure crops	see 1.9.4 Other green manure crops	yes
		Niger		GUIAB			niger-seed		see 1.9.4 Other green manure crops	see 1.9.4 Other green manure crops	yes
	1.10 Voedergewassen					1.10 Fodder crops					
		1.10.1 Vlinderbloemige voedergewassen				1.10.1 Leguminous fodder crops			yes, aphids (see 1.5 pulses) Honeybees have been shown to exploit honeydew from aphid-infested <i>Vicia faba</i> and alfalfa (10).	No insect control is carried out.	yes
		Klaver*	rode klaver	TRFPR			Clover *	Red clover	see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
	witte klaver		TRFRE			white clover		see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes	
	bastaardklaver		TRFHY			alslike clover		see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes	

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	EPPO code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
			inkarnaatklaver	TRFIN				carnation clover	see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
			Perzische klaver	TRFRS				Persian clover	see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
			Alexandrijnse klaver	TRFAL				berseem clover	see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
			Klaver soorten spp	TRFSS				clover species spp	see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
			hopklaver	MEDLU				hop clover	see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
			rolklaver	LOTCO				birds-foot trefoil	see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
			witte honingklaver	MEUAL				honey clover	see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
		Luzerne		MEDSA			alfalfa		see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
		Voederwikke*		VICSA			Common vetch*		see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
		Lupine *		LUPAL			Lupin*		see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
		Hanekam*		COEAR			Celosia*		see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
		Esparcette*		ONBVI			Esparcet		see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
		Veldboon voor silage*		VICFX			Broad bean for ensilage*		see 1.10.1 Leguminous fodder crops	see 1.10.1 Leguminous fodder crops	yes
		1.10.2 Overige voedergewassen					1.10.2 Other fodder crops				
		Stoppelknol		BRSRR			Forage turnip		yes, aphids (see 4.4 Brassica vegetables)	No insect control is carried out.	yes
		1.11 Overige akkerbouwgewassen					1.11 Other arable crops				

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		1.11.1				1.11.1 -					
		Witlof (pennenteelt)		CICIF			Witloof Chicory (roots)		yes, aphids (4)	Aphids are tolerated to a certain level.	yes
		Cichorei		CICIS			Large-rooted chicory		yes, aphids (4)	Aphids are tolerated to a certain level.	yes
		Boekweit		FAGES			Buckwheat		yes, aphids and whiteflies (31)	Aphids and whiteflies are tolerated to a certain level.	yes
		Hop		HUMLU			Common hop		yes, aphids (6, 34, 44)	Aphids are tolerated to a certain level.	yes
		Meekrap		RBITI			Common madder		no information available		no information available
		Miscanthus	prachtriet	MISSI			Chinese fairy grass		no information available		no information available
		Olifantsgras		PESPU			Elephant grass		no information available		no information available
		Quinoa		CHEQU			Quinoa		yes, aphids (44)	Aphids are tolerated to a certain level.	yes
		Wouw		RESLT			Wild woad		no information available		no information available
		Sorghum		SORVU			Sorghum		yes, aphids (44)	Aphids are tolerated to a certain level.	yes
		Teff		ERATF			Teff		yes, aphids (44)	Aphids are tolerated to a certain level.	yes
<b>2. Cultuurgrasland</b>				<b>2. Cultivated grassland</b>							
	2.1 Voedergrasland				2.1 Fodder grassland				yes, aphids (see 1.6 grass seed crops)	Aphids are tolerated to a certain level.	yes
		Weiland					Permanent pasture		see 2.1 Fodder grassland	see 2.1 Fodder grassland	yes
		Maaigrasland					Mowing grassland		see 2.1 Fodder grassland	see 2.1 Fodder grassland	yes



Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
	2.2	Graszodenteelt				2.2	Turf production		yes, aphids (see 1.6 grass seed crops)	Aphids have no chance to develop because turf is regularly mown.	no
<b>3. Fruitgewassen</b>					<b>3. Fruit crops</b>						
<b>Betreft alleen de productieteelt van te oogsten vruchten</b>					<b>Only refers to production of fruits</b>						
	3.1	Groot fruit				3.1	Large fruits				
		3.1.1	Pitvruchten				3.1.1	Pome fruit			
		Appel		MABSD			Apple		yes aphids (2, 8) and cicadas (2)	Aphids and cicadas are not tolerated. Growers control infestations well.	no
		Peer		PYUCO			Pear		yes, aphids (2) and psyllids (2, 8, 44)	Aphids and psyllids are tolerated to a certain level.	yes
			incl. Japanse peer	PYUPC				including oriental pear	no information available		no information available
		Kweepeer		CYDOB			Quince		no information available		no information available
		Mispel		MSPGE			Common medlar		no information available		no information available
		Overige pitvruchten					Other pome fruit		no information available		no information available
		3.1.2	Steenvruchten				3.1.2	Stone fruit	yes, aphids and scale insects (2)	Aphids and scale insects are not tolerated. Growers control infestations well. (43).	no
		Kers	Zoete kers	PRNAV			Sweet cherry		see 3.1.2 Stone fruit	see 3.1.2 Stone fruit	no
			Zure kers	PRNCE			Sour cherry		see 3.1.2 Stone fruit	see 3.1.2 Stone fruit	no

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	EPPO code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		Pruim		PRNDO			Plum		see 3.1.2 Stone fruit	see 3.1.2 Stone fruit	no
		Abrikoos		PRNAR			Apricot		see 3.1.2 Stone fruit	see 3.1.2 Stone fruit	no
		Perzik		PRNPS			Peach		see 3.1.2 Stone fruit	see 3.1.2 Stone fruit	no
		Nectarine		PRNPN			Nectarine		see 3.1.2 Stone fruit	see 3.1.2 Stone fruit	no
		Overige steenvruchten					Other stone fruit		see 3.1.2 Stone fruit	see 3.1.2 Stone fruit	no
		3.2 Kleinfruit (Houtig kleinfruit is 3.2.2, 3.2.3 en 3.2.4 samen)					3.2 Small fruits (Woody small fruit consist of 3.2.2, 3.2.3 and 3.2.4)				
		3.2.1 Aardbei		FRAAN			3.2.1 Strawberries		yes, aphids, whiteflies and cicadas (12, 44)	At the beginning of the growing period, growers control infestations well. At the end of the growing period, spots with honeydew producing insects may occur and these are tolerated to a certain level.	yes
		3.2.2 Bessen					3.2.2 Berries		yes, aphids, scale insects, cicadas and whiteflies (2)	Honeydew producing insects are not tolerated. Growers control infestations well (43).	no
		Aalbes	Rode en witte bes	RIBRU			Currant	Red and white currant	see 3.2.2 Berries	see 3.2.2 Berries	no

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
			Zwarte bes	RIBNI				Black currant	see 3.2.2 Berries	see 3.2.2 Berries	no
		Kruisbes		RIBUC			Gooseberry		see 3.2.2 Berries	see 3.2.2 Berries	no
		Blauwe bes		VACCO			Blueberry	including	see 3.2.2 Berries	see 3.2.2 Berries	no
			Incl (blauwe) bosbes	VACMY VACVI				Bilberry	see 3.2.2 Berries	see 3.2.2 Berries	no
			rode bosbes (vossebes)					Foxberry (cowberry)	see 3.2.2 Berries	see 3.2.2 Berries	no
		Veenbes		VACOX			Small Cranberry		see 3.2.2 Berries	see 3.2.2 Berries	no
			Incl cranberry (grote veenbes)	VACMA				American or large cranberry	see 3.2.2 Berries	see 3.2.2 Berries	no
		Moerbei		MORSS			Mulberry		see 3.2.2 Berries	see 3.2.2 Berries	no
		Rozenbottel		ROSSS			Rose hip		see 3.2.2 Berries	see 3.2.2 Berries	no
		Kiwibes		ATIAR			Kiwiberry		see 3.2.2 Berries	see 3.2.2 Berries	no
		Vlierbes		SAMSS			Elderberry		see 3.2.2 Berries	see 3.2.2 Berries	no
			Appelbes	ABOSS				Chokeberries	see 3.2.2 Berries	see 3.2.2 Berries	no
			Duindoorn	HIORH				Sea buckthorn	see 3.2.2 Berries	see 3.2.2 Berries	no
		Overige bessen					Other berries		see 3.2.2 Berries	see 3.2.2 Berries	no
		3.2.3 Druif					3.2.3 Grapes		yes, aphids, scale insects (2, 4)	Aphids and scale insects are not tolerated. Growers control infestations well.	no
		Tafeldruif		VITVI			Table grapes		see 3.2.3 Grapes	see 3.2.3 Grapes	no
		Wijndruif					Wine grapes		see 3.2.3 Grapes	see 3.2.3 Grapes	no
		3.2.4 Braam- en framboos-achtigen					3.2.4 Blackberry and raspberry family (Rubus spp.)		yes, aphids and whiteflies (2, 5, 44)	Aphids and whiteflies are not tolerated. Growers control infestations well (43).	no
		(Rubus spp.)							see 3.2.4 Blackberry and raspberry family	see 3.2.4 Blackberry and raspberry family	no

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	EPPO code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		Braam		RUBFR			Blackberry		see 3.2.4 Blackberry and raspberry family	see 3.2.4 Blackberry and raspberry family	no
		Framboos		RUBID RUBPH			Raspberry		see 3.2.4 Blackberry and raspberry family	see 3.2.4 Blackberry and raspberry family	no
		incl. Taybes					Including, Tayberry		see 3.2.4 Blackberry and raspberry family	see 3.2.4 Blackberry and raspberry family	no
		Japanse wijnbes					Japanese wine berry		see 3.2.4 Blackberry and raspberry family	see 3.2.4 Blackberry and raspberry family	no
		Dauw-bramen		RUBCA			Common dewberry		see 3.2.4 Blackberry and raspberry family	see 3.2.4 Blackberry and raspberry family	no
		Loganbes		RUBLO			Loganberry		see 3.2.4 Blackberry and raspberry family	see 3.2.4 Blackberry and raspberry family	no
		Boysenbes		RUBLO			Boysenberry		see 3.2.4 Blackberry and raspberry family	see 3.2.4 Blackberry and raspberry family	no
	3.3 Noten					3.3 Tree Nuts					
		Hazelnoot		CYLAV			Hazelnut		yes, scale insects Bees are known to forage on honeydew of scale insects on hazelnut (14).	Scale insects are tolerated to a certain level.	yes
		Kastanje		CSNSS			Chestnut		yes scale insects (11)	Scale insects are tolerated to a certain level.	yes
		Walnoot		IUGRE		-	Walnut		no (44)		no
	3.4 Overige fruitsoorten					3.4 Other fruits					
		Vijg		FIUCA			Fig		yes, whiteflies (5)		yes
		Kiwi		ATIDE			Kiwi		yes, whiteflies (5)		yes
<b>4. Groenteteelt</b>						<b>4. Vegetable crops</b>					

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	EPPO code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
	4.1	Bladgroenten				4.1	Leafy vegetables		yes, aphids and whiteflies (6, 8, 12, 44)	Aphids and whiteflies are not tolerated, because the harvested product includes the leaves. Growers control infestations well.	no
	4.1.1	Sla; <i>Lactuca</i> spp				4.1.1	Lettuce ( <i>Lactuca</i> spp.)		see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
			incl. krulsla, snijsla (= babyleaf), pluksla (=baby leaf) eikenbladsla, lollo rosso, kropsla, ijsbergsla, bindsla, lolla bionda, Batavia	LACSS				Including curled leave lettuce, oak leaf lettuce, lollo rosso, head lettuce, iceberg lettuce, Roman (cos) lettuce, lolla bionda, Batavia and babyleaves	see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
	4.1.2	Andijvie				4.1.2	Endive		see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
		Andijvie	incl. kropandijvie, krulandijvie, maaiandijvie, groenlof, radicchio rosso	CICEN			Endive	Including carole, curld leave endive, cutting endive, sugar loaf, radicchio rosso	see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
	4.1.3	Spinazie-achtigen				4.1.3	Spinach family		see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
		Spinazie	incl.	SPQOL TEATE			Spinach	Including	see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
			Nieuw-Zeelandse spinazie	BRSRE				New-Zealand	see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
								spinach			
			raapstelen					turnip tops	see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
			klaroen	AMADU					see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
								spleen amaranth	see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
		Snijbiet		BEAVV			Chard		see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
		Tuinmelde		ATXHO			Garden orache		see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
		Postelein		POROS			Purslane		see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
			incl. winterpostelein	CLAPE				Including winter purslane	see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
									see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
		4.1.4 Overige bladgroenten					4.1.4 Other leafy vegetables		see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
		Witlof (trekteelt)	incl. roodlof	CICIF			Witloof chicory (forced cultivation)		see 4.1 Leafy vegetables	see 4.1 Leafy vegetables, furthermore: witloof (forced cultivation) is in closed and dark compartments: not accessible for bees.	no
		Waterkers		NAAOF			Watercress		see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
		Veldsla	<i>Valerianella locusta</i>	VLLLO			Lamb's lettuce	<i>Valerianella locusta</i>	see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
		Rucola	raketsla	ERUVE			Rocket	Rucola	see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
		Lamsoor		LIIVU			Sea lavender		see 4.1 Leafy vegetables	see 4.1 Leafy vegetables	no
		4.1.5 Kiemgroenten					4.2.5 Vegetable sprouts		probably yes (44)	Honeydew producing insects are not tolerated, because the whole plant is harvested. Growers control infestations well.	no
		Tuinkers		LEPSA			Garden cress		see 4.2.5 Vegetable sprouts	see 4.2.5 Vegetable sprouts	no

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	EPP0 code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		Taugé		PHSAU			Bean sprouts (Mung bean sprouts)		see 4.2.5 Vegetable sprouts	see 4.2.5 Vegetable sprouts	no
		Alfalfa		MEDSA			Alfalfa		see 4.2.5 Vegetable sprouts	see 4.2.5 Vegetable sprouts	no
		Rucolakers		ERUVE			Rucola cress		see 4.2.5 Vegetable sprouts	see 4.2.5 Vegetable sprouts	no
		Overige kiemgroenten					Other vegetable sprouts		see 4.2.5 Vegetable sprouts	see 4.2.5 Vegetable sprouts	no
		4.1.6 Baby leaves	Alle groentegewassen die geoogst worden voor het 8 bladstadium (voor BBCH 19)				4.1.6 Baby leaf crops	All vegetable crops harvested before the 8 true leaf stage (before BBCH 19)	probably yes (44)	Honeydew producing insects are not tolerated, because the harvested product includes the leaves. Growers control infestations well.	no
	4.2 Peulgroenten					4.2 Legume vegetables (fresh)					
		4.2.1 Boon met peul				4.2.1 Beans with pod			yes, aphids and whiteflies (6, 12, 44)	Aphids and whiteflies are tolerated to a certain level.	yes
		Stamslaboon	sperzieboon, boterboon wasboon	PHSVN			Dwarf French bean	French bean, green bean, snap bean	see 4.2.1 Beans with pod	see 4.2.1 Beans with pod	yes
									see 4.2.1 Beans with pod	see 4.2.1 Beans with pod	yes
		Stamsnijboon		PHSVN			Slicing bean		see 4.2.1 Beans with pod	see 4.2.1 Beans with pod	yes
		Stokslaboon	sperzieboon, boterboon wasboon, spekboon	PHSVX			Climbing French bean	French bean, green bean, snap bean	see 4.2.1 Beans with pod	see 4.2.1 Beans with pod	yes
									see 4.2.1 Beans with pod	see 4.2.1 Beans with pod	yes
		Stoksniijboon		PHSVX			Climbing slicing bean		see 4.2.1 Beans with pod	see 4.2.1 Beans with pod	yes
		Pronkboon		PHSCO			Scarlet runner bean		see 4.2.1 Beans with pod	see 4.2.1 Beans with pod	yes

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	EPP0 code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		Kouseband		VIGSC			Yardlong bean		see 4.2.1 Beans with pod	see 4.2.1 Beans with pod	yes
			incl. korte kouseband	VIGSI				including cowpea	see 4.2.1 Beans with pod	see 4.2.1 Beans with pod	yes
		4.2.2 Boon zonder peul					4.2.2 Beans without pod		yes, aphids (6, 12, 44)	Aphids are tolerated to a certain level.	yes
		Tuinboon		VICFX			Broad bean		yes, aphids (6, 12, 44); bees are known to forage for honeydew on broad beans (10)	see 4.2.2 Beans without pods	yes
		Limaboon		PHSLU			Lima bean		see 4.2.2 Beans without pods	see 4.2.2 Beans without pods	yes
		Flageolet		PHSVX			Flageolets		see 4.2.2 Beans without pods	see 4.2.2 Beans without pods	yes
		4.2.3 Erwt met peul					4.2.3 Peas with pod		yes, aphids (6, 44)	Aphids are tolerated to a certain level.	yes
		Peul	stam- en rijspeul	PIBSX			Mangetout		see 4.2.3 Peas with pod	see 4.2.3 Peas with pod	yes
		Asperge-erwt		TTGPU			Asparagus pea		see 4.2.3 Peas with pod	see 4.2.3 Peas with pod	yes
		Suikererwt		PIBSZ			sugar pea		see 4.2.3 Peas with pod	see 4.2.3 Peas with pod	yes
		4.2.4 Erwt zonder peul					4.2.4 Peas without pod		yes, aphids (6, 44)	Aphids are tolerated to a certain level.	yes
		Doperwt		PIBSX			Green pea		see 4.2.4 Peas without pod	see 4.2.4 Peas without pod	yes
		Kapucijner		PIBSA			Field pea		see 4.2.4 Peas without pod	see 4.2.4 Peas without pod	yes
	4.3 Vruchtgroenten					4.3 Fruiting vegetables			yes, aphids and whiteflies (6, 8, 12, 44), cicadas (6) and mealybugs (6, 35, 44)	Honeydew producing insects are tolerated to a certain level.	yes
	4.3.1 Vruchtgroenten van Cucurbitaceae					4.3.1 Fruiting vegetables of Cucurbits - edible peel			see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
	eetbare schil								see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		Augurk		CUMSG			Gherkin		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		Courgette		CUUPG			zucchini		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
			incl. patisson	CUUPM				including bush pumpkin	see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		Komkommer		CUMSA			Cucumber		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes



Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		4.3.2 Vruchtgroenten van Cucurbitaceae					4.3.2 Fruiting vegetables of Cucurbits		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		niet-eetbare schil					non-edible peel		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		Pompoen-achtigen	incl. winterpompoen en winter squash	CUUPE			Pumpkins	including winter squash	see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		Meloen	netmeloen, suikermeloen, honingmeloen	CUMME			Melon		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		Watermeloen		CITLA			Watermelon		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		4.3.3 Vruchtgroenten van Solanaceae					4.3.3 Fruiting vegetables of Solanaceae		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		Aubergine		SOLME			Aubergine		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		Tomaat		LYPES			Tomato		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		Paprika	incl. Spaanse peper en Cayenne peper	CPSAN			sweet pepper	including red pepper and Cayenne pepper	see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
				CPSFR					see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		Tomatilo		PHYIX			Husk tomato		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		4.3.4 Vruchtgroenten van Malvaceae					4.3.4 Fruiting vegetables of Malvaceae		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
		Okra		ABMES			Okra		see 4.3 Fruiting vegetables	see 4.3 Fruiting vegetables	yes
	4.4 Koolgewassen					4.4 Brassica vegetables					
	4.4.1 Sluitkoolachtigen					4.4.1 Head cabbages					
		Sluitkool	rode kool, gele- en groene savoie kool, spitskool, witte kool	BRSOL			Head cabbage	Red cabbage, yellow and green savoy cabbage, head cabbage, white cabbage	yes, aphids (6, 12) and whiteflies (6)	Aphids and whiteflies are tolerated to a certain level.	yes
		Spruitkool		BRSOF			Brussels Sprouts		yes, aphids (6, 12, 44) and whiteflies (6, 44)	Aphids and whiteflies are tolerated to a certain level.	yes

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		4.4.2 Bloemkoolachtigen				4.4.2 Flowering brassica			yes, aphids (6, 12) and whiteflies (6)	Aphids and whiteflies are tolerated to a certain level.	yes
		Bloemkool	witte, groene, paarse en romanesco	BRSOB			Cauliflower	White, green, purple and romanesco	see 4.4.2 Flowering brassica	see 4.4.2 Flowering brassica	yes
		Broccoli	incl. Chinese broccoli of kailaan	BRSOK			Broccoli	including Chinese broccoli or Kailan, Choi sum	see 4.4.2 Flowering brassica	see 4.4.2 Flowering brassica	yes
		4.4.3 Bladkoolachtigen				4.4.3 Leafy brassica					
		Chinese kool	incl. amsoi, choisum , paksoi, komatsuna , tat soi, mibuna, mizuna, overige oosterse bladkolen.	BRSBK			Chinese cabbage	including amsoi, Pak-choi, Spinach mustard ,komatsuna, Tatsoi, Mibuna, Mizuna, other oriental cabbage leaves.	yes, aphids (6, 12, 44) and whiteflies (6)	Honeydew producing insects are not tolerated, because the harvested product includes the leaves. Growers control infestations well.	no
		Boerenkool	incl. maaiboerenkool	BRSOC			Curly kale	including cutting curly kale	yes, aphids (6, 12) and whiteflies (6, 12, 44)	Aphids and whiteflies are tolerated to a certain level.	yes
		4.4.4 Stengelkool				4.4.4 Stern cabbage					
		Koolrabi	groene, witte en blauwviolete	BRSOG			Kohlrabi	Green, white and purple	yes, aphids and whiteflies (6)	Aphids and whiteflies are tolerated to a certain level.	yes
		4.5 Wortel- en knolgewassen				4.5 Root and tuber vegetables					
		4.5.1 Radijs-achtigen				4.5.1 Radishes			yes, aphids (6, 12, 44)	Aphids are not tolerated, because the harvested product includes the leaves. Growers control infestations well.	no

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		Radijs		RAPSR			Small radish		see 4.5.1 Radishes	see 4.5.1 Radishes	no
		Rammenas	incl. rettich, daikon	RAPSN			Black/white radish	including Rettich, Daikon radish	see 4.5.1 Radishes	see 4.5.1 Radishes	no
		4.5.2 Wortelgewassen (Umbelliferae)				4.5.2 Root vegetables (Umbelliferae)					
		Wortelen	bospeen, Parijse wortelen, waspeen, winterwortel	DAUCS			Carrots	Bunched-up carrots, Parisian carrots	yes, aphids (6, 12) and psyllids (6)	<u>bunched-up carrots</u> : Aphids and psyllids are not tolerated, because the harvested product includes the leaves. Growers control infestations well. <u>other carrots</u> : Aphids and psyllids are tolerated to a certain level (harvested product does not include leaves).	bunched-up carrots: no other carrots: yes
		Suikerwortel		SIUSI			Skirret		no information available		no information available
		Wortelpeterselie		PARCT			Turnip-rooted parsley		yes, aphids (44)	Aphids are tolerated to a certain level.	yes
		Pastinaak		PAVSA			Parsnips		yes, aphids (12)	Aphids are tolerated to a certain level.	yes
		4.5.3 Overige wortel- en knolgewassen				4.5.3 Other root and tuber vegetables			yes, aphids (6, 12, 44)	Aphids are tolerated to a certain level.	yes
		Knolraap	raap en meiknol stoppelknol	BRSOG			Turnip cabbage		see 4.5.3 Other root and tuber vegetables	see 4.5.3 Other root and tuber vegetables	yes
		Koolraap		BRSNA			Swede		see 4.5.3 Other root and tuber vegetables	see 4.5.3 Other root and tuber vegetables	yes
		Aardpeer		HELTU			Jerusalem artichoke		see 4.5.3 Other root and tuber vegetables	see 4.5.3 Other root and tuber vegetables	yes
		Japanse aardappel		STASB			Japanese artichoke		see 4.5.3 Other root and tuber vegetables	see 4.5.3 Other root and tuber vegetables	yes
		Zoete aardappel		IPOBA			Sweet potato		see 4.5.3 Other root and tuber	see 4.5.3 Other root and tuber	yes

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									vegetables	vegetables	
		Rode biet		BEAVD			Red beet	Beetroot, garden beet	see 4.5.3 Other root and tuber vegetables	see 4.5.3 Other root and tuber vegetables	yes
		Knolselderij		APUGR			Celeriac		see 4.5.3 Other root and tuber vegetables	see 4.5.3 Other root and tuber vegetables	yes
		Schorseneer		SCVHI TROPS			Black salsify		see 4.5.3 Other root and tuber vegetables	see 4.5.3 Other root and tuber vegetables	yes
			incl. haverwortel					including common salsify	see 4.5.3 Other root and tuber vegetables	see 4.5.3 Other root and tuber vegetables	yes
		Mierikswortel		ARWLA			Horseradish		see 4.5.3 Other root and tuber vegetables	see 4.5.3 Other root and tuber vegetables	yes
		Yam		SIUSS			Yam		see 4.5.3 Other root and tuber vegetables	see 4.5.3 Other root and tuber vegetables	yes
	4.6 Ui-achtigen					4.6 Bulb vegetables			no (5, 6, 12, 44, 42)		no
	4.6.1. Uien					4.6.1. Onions			see 4.6 Bulb vegetables		no
		Zaaiui		ALLCE			Seed onion		see 4.6 Bulb vegetables		no
		Eerstejaars plantui					First year bulb onion		see 4.6 Bulb vegetables		no
		Tweedejaars plantui					Second year bulb onion		see 4.6 Bulb vegetables		no
		Zilverui					Silverskin onions		see 4.6 Bulb vegetables		no
		Picklers					Picklers		see 4.6 Bulb vegetables		no
	4.6.2 Sjalotten						4.6.2 Shallots			see 4.6 Bulb vegetables	
		Zaaisjalot		ALLAS			Seed shallot		see 4.6 Bulb vegetables		no
		Plantsjalot					Bulb shallot		see 4.6 Bulb vegetables		no
	4.6.3 Bosuien					4.6.3 Spring onion			see 4.6 Bulb vegetables		no
		Bosui	incl. stengelui, lente-ui, grove bieslook	ALLCE			Spring onion	including Welsh onion and escallion	see 4.6 Bulb vegetables		no

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
		4.6.4. Knoflook					4.6.4. Garlic		see 4.6 Bulb vegetables		no
		Knoflook		ALLSA			Garlic		see 4.6 Bulb vegetables		no
	4.7 Stengelgroenten					4.7 Stem vegetables					
		Asperge	witte en groene asperges	ASPOF		-	Asparagus	white and green asparagus	yes, aphids (12)	Aphids are tolerated to a certain level.	yes
		Bleekselderij		APUGD			Celery		yes, aphids (6, 12, 44)	Aphids are not tolerated, because the harvested product includes the stems. Growers control infestations well.	no
		Kardoen		CYUCA			Cardoon		yes, aphids (44)	Aphids are not tolerated, because the harvested product includes the stems. Growers control infestations well.	no
		Rabarber		RHERH			Rhubarb		yes, aphids (6, 12, 44)	Aphids are tolerated to a certain level.	yes
		Knolvenkel		FOEVA			Fennel		yes, aphids (6, 44)	Aphids are tolerated to a certain level.	yes
		Prei		ALLPO			Leek		yes, aphids and whiteflies (6, 44)	Aphids and whiteflies are not tolerated, because the harvested product includes the leaves. Growers control infestations well.	no
		Artisjok		CYUSC			Globe artichoke		yes, aphids (44)	Aphids are tolerated to a certain level.	yes
		Zeekool		CRMMA			Sea kale		no information available		no information available
		Zeekraal		SAAEU			Marsh samphire		no information available		no information available
	4.8 Overige groentegewassen					4.8 Other vegetable crops					
		Suikermaïs		ZEAMS			Sweet corn		yes, aphids (44)	Aphids are tolerated to a certain level.	yes

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										level.	
<b>5. Kruidenteelt</b>					<b>5. Herbs</b>						
<b>vers of gedroogd</b>					<b>fresh or dried</b>						
	5.1 Aromatische kruidgewassen					5.1 Aromatic herbs			yes, aphids (6), cicadas and whiteflies (44)	Aphids, cicadas and whiteflies are not tolerated, because the harvested product includes the leaves. Growers control infestations well.	no
		Basilicum		OCIBA		-	Basil		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Bieslook		ALLSC ALLTU			Chives		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
			incl knoflookbieslook					incl. chinese chives	see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Bonenkruid		STIHO STIMO			Summer savory		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
			Incl bergbonenkruid					Incl winter savory	see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Citroenmelisse		MLSOF			Lemon balm		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Dille		AFEGR			Dill		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Dragon	Russische en Franse dragon	ARTDR			Tarragon	Russian and French Tarragon	see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Hysop		HYSOF			Hyssop		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Kervel		ARNCE			Chervil		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Koriander		CORSA			Coriander		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Peterselie	krulpeterselie en platte peterselie	PARCR			Parsley	Curly and flat-leaf parsley	see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Maggiplant	maggiblad (Lavas)	LEWOF			Lovage	Lovage leaves (Lavas)	see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Majoraan	marjolein	MAHJO			Marjoram		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no

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		Oregano	wilde marjolein	ORIVU			Oregano	Wild marjoram	see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Munt		MENSS			Mint		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Pimpernel		SANMI			Burnet		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Rozemarijn		RMSOF			Rosemary		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Salie		SALOF			Sage		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Tijm		THYVU			Thyme		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Venkel		FOEVD			Fennel		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Bladselderij		APUGV			Celery leaves	stalk celery	see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Veldzuring		RUMAC			Sorrel		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Overige aromatische tuinkruiden					Other aromatic garden herbs		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Eetbare bloemen					Edible flowers		see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		o.a. courgette,	CUUPG					e.g. zucchini	see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		afrikaantjes (Tagetes),	TAGER					African Marigold	see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		Oost-Indische kers,	TOPMA					common nasturtium	see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
		goudsbloem	CLDOF					pot marigold	see 5.1 Aromatic herbs	see 5.1 Aromatic herbs	no
	5.2 Aromatische wortelgewassen					5.2 Aromatic root crops			yes, aphids (6)	Aphids are tolerated to a certain level.	yes
		Maggi		LEWOF		-	Lovage root		see 5.2 Aromatic root crops	see 5.2 Aromatic root crops	yes
		Engelwortel		ANKAR			Angelica		see 5.2 Aromatic root crops	see 5.2 Aromatic root crops	yes
		Bevernelwortel		PIMSA			Burnet Saxifrage root		see 5.2 Aromatic root crops	see 5.2 Aromatic root crops	yes
		wortelpeterselie		PARCT			turnip-rooted parsley		see 5.2 Aromatic root crops	see 5.2 Aromatic root crops	yes
		Overige aromatische wortelgewassen					Other aromatic root crops		see 5.2 Aromatic root crops	see 5.2 Aromatic root crops	yes

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	5.3 Medicinale kruidgewassen					5.3 Medicinal herbs			yes, aphids (6)	Aphids are not tolerated, because the harvested product includes the leaves. Growers control infestations well.	no
		Opgeblazen Lobelia		LOBIN		-	Indian tobacco		see 5.3 Medicinal herbs	see 5.3 Medicinal herbs	no
		Wollig vingerhoedskruid		DIKLA			Woolly foxglove		see 5.3 Medicinal herbs	see 5.3 Medicinal herbs	no
		Driekleurig viooltje		VIOTR			Wild pansy		see 5.3 Medicinal herbs	see 5.3 Medicinal herbs	no
		Echte kamille		MATCH			Wild chamomile		see 5.3 Medicinal herbs	see 5.3 Medicinal herbs	no
		Zonnehoed		RUDPU			Purple cone flower		see 5.3 Medicinal herbs	see 5.3 Medicinal herbs	no
		Bekergoudsbloem		CLDOF			Pot marigold		see 5.3 Medicinal herbs	see 5.3 Medicinal herbs	no
		Overige medicinale kruidgewassen					Other medicinal herbs		see 5.3 Medicinal herbs	see 5.3 Medicinal herbs	no
	5.4 Medicinale wortelgewassen					5.4 Medicinal root crops					
		Valeriaan		VALOF			Valerian		no information available		no information available
		Ginseng		PNXGI			Asiatic ginseng		no information available		no information available
		Zonnehoed		RUDPU		-	Purple coneflower root		no information available		no information available
		Overige medicinale wortelgewassen					Other medicinal root crops		no information available		no information available
	5.5 Kruidenzaadgewassen					5.5 herb seed crops			yes, aphids (5, 30)	Aphids are tolerated to a certain level.	yes
		Karwijzaad*		CRYCA			Caraway*		see 5.5 Herb seed crops	see 5.5 Herb seed crops	yes
		Blauwmaanzaad*		PAPSO			Poppy seed*		see 5.5 Herb seed crops	see 5.5 Herb seed crops	yes



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		Overige kruidenzaadgewassen				-	Other seed herbs		see 5.5 Herb seed crops	see 5.5 Herb seed crops	yes
<b>6. Paddenstoelenteelt</b>				<b>6. Mushrooms</b>							
	6.1 Eetbare paddenstoelen				6.1 Edible mushrooms				no (5, 6, 44)		no
		Champignon	witte champignon, kastanje champignon, portobello	AGARBI			Button mushroom	Common mushroom, Chestnut mushroom, Portabello mushroom	see 6.1 Edible mushrooms		no
		Oesterzwam	gewone oesterzwam,	PLEUOS			Oyster mushroom	oyster mushroom,	see 6.1 Edible mushrooms		no
			trecheroesterzwam, goudkleurige esterzwam, kruisdistel oesterzwam, zalmoesterzwam,		golden oyster mushroom,			see 6.1 Edible mushrooms		no	
			roze oesterzwam		pink oyster mushroom,			see 6.1 Edible mushrooms		no	
					king oyster mushroom			see 6.1 Edible mushrooms		no	
		Overige paddestoelen					Other mushrooms		see 6.1 Edible mushrooms		no
			Shiitake	LENTED				Shiitake	see 6.1 Edible mushrooms		no
			paarse schijnridderzwam	LPSTNU				Blue stalk mushroom	see 6.1 Edible mushrooms		no
			nameko	PHOLNA				Nameko	see 6.1 Edible mushrooms		no
			anijschampignon	AGARAR				Horse mushroom	see 6.1 Edible mushrooms		no
			geschubde inktzwam fluweelpootje	COPNCO				Shaggy ink cap	see 6.1 Edible mushrooms		no

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			populierleemhoed	FLMUVE				Winter mushroom	see 6.1 Edible mushrooms		no
			shimeji,	AGCYCY				Poplar fieldcap	see 6.1 Edible mushrooms		no
			blauwplaatstropharia,	HYPZMA				shimeji,	see 6.1 Edible mushrooms		no
			eikhaas	STPRRU					see 6.1 Edible mushrooms		no
			lakzwam	GRIFFR				hen-of-the-woods, Lingzhi mushroom	see 6.1 Edible mushrooms		no
			judasoor	GANOLU				Judah's ear	see 6.1 Edible mushrooms		no
			amandelchampignon	AURIAU				almond portobello	see 6.1 Edible mushrooms		no
				AGARBZ					see 6.1 Edible mushrooms		no
<b>7. Sierteeltgewassen</b>				<b>7. Floriculture crops</b>							
	7.1 Bloembol- en bloemknolgewassen				7.1 Flower bulb and flower tuber crops						
	7.1.1 Bloembollen en bloemknollen	vermeerderingsteelt van amaryllis, dahlia, gladiool, hyacint, lelie, narcis, tulp, iris, krokus, overige bloembollen en bloemknollen.				7.1.1 Flower bulbs and flower tubers	cultivation for reproduction of amaryllis, dahlia, gladiolus, hyacinth, lily, narcissus, tulip, iris, crocus, other flower bulbs and tubers	yes, aphids (during growing period and during storage) and mealybugs and cicadas (during storage) (8, 40, 41, 44)	Aphids are not tolerated, because of virus transmission and growth inhibition. Growers control infestations well. Bees do not have access to aphids and mealybugs in storage cells.	no	

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		7.1.2 Bolbloemen en knolbloemen	bloementeel / potplantenteelt van bloembollen en bloemknollen van amaryllis, dahlia, gladiool, hyacint, lelie, narcis, tulp, iris, krokus, overige bloembollen en bloemknollen				7.1.2 Bulb flower and tuber flower	Flower / pot plants cultivation of amaryllis, dahlia, gladiolus, hyacinth, lily, narcissus, tulip, iris, crocus, other flower bulbs and tubers	yes, aphids (8, 40, 41, 44)	Aphids are not tolerated, because the harvested product includes the leaves. Growers control infestations well.	no
	7.2 Bloemisterijgewassen					7.2 Ornamental crops					
		Potplanten	incl. eenjarige perkplanten, bolbloemen en knolbloemen				Pot plants	including annual bedding plants, and potted bulb flowers and tuber flowers	yes, aphids, mealybugs, scale insects, whiteflies and cicadas (8, 44)	Honeydew producing insects are not tolerated, because the harvested product includes the whole plant. Growers control infestations well.	no
		Snijbloemen	incl. zomerbloemen, droogbloemen, bolbloemen en knolbloemen				Cut flowers	including summer flowers, dried flowers, bulb flowers and tuber flowers	yes, aphids, mealybugs, scale insects, whiteflies and cicadas (8, 44)	Honeydew producing insects are not tolerated, because the harvested product includes the leaves and stems. Growers control infestations well.	no
		Trekheesters					Forced shrubs		yes, aphids (20, 36)	Aphids are tolerated to a certain level (except for the period of forcing).	yes
		Snijgroen					Cut green		yes, aphids and scale insects (20)	Honeydew producing insects are not tolerated, because the harvested product includes the leaves and branches. Growers	no

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										control infestations well.	
	7.3 Boomkwekerijgewassen					7.3 Tree nursery crops					
		Laanbomen					Avenue trees		yes, aphids and cicadas (19, 20) Honeybees have been shown to exploit honeydew from several avenue trees (13).	Aphids are tolerated to a certain level.	yes
		Klimplanten					Climbing plants		yes, aphids, cicadas and scale insects (20)		yes
		Rozen	incl. onderstammen en buitenrozen				Roses	including rose stocks and outdoor roses	yes, aphids and cicadas (19, 20)	In rose stocks, aphids are tolerated to a certain level. In other roses, aphids are not tolerated, because the harvested product includes the whole plant. Growers control infestations well.	rose stocks: yes other roses: no
		Coniferen					Conifers		yes, aphids and scale insects (19, 20)	Aphids and scale insects are not tolerated, because the harvested product includes the whole plant. Growers control infestations well.	no

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		Sierheesters					Ornamental shrubs		yes, aphids, cicadas, scale insects and whiteflies (whiteflies only in indoor production) (19, 20)	Aphids are tolerated to a certain level in a number of crops from this group.	yes
		Kerstbomen					Christmas trees		yes, aphids and scale insects (19, 20)	Aphids and scale insects are tolerated to a certain level.	yes
		Heide soorten					Heather		no (19, 20, 44)		no
		Bos- en haagplantsoen					Forest trees and hedging plants		yes, aphids (20) Honeybees have been shown to exploit honeydew from several crops in this group (13).	Aphids are tolerated to a certain level.	yes
		Vruchtbomen en -struiken	incl. vruchtboomonderstammen				Fruit trees and shrubs	including Fruit tree stocks	yes, aphids, psyllids and scale insects (8, 19, 20)	In fruit tree stocks, honeydew producing insects are tolerated to a certain level. In fruit trees and shrubs, aphids are not tolerated, because of growth inhibition.	fruit tree stocks: yes fruit trees and shrubs: no
	7.4 Vaste plantenteelt					7.4 Perennial crops			yes, aphids, cicadas, scale insects and mealybugs (19, 20, 44)	Honeydew producing insects are not tolerated, because of growth inhibition. Growers control infestations well.	no
	7.5 Bloemenzaadteelt					7.5 Flower seed crops			yes, aphids (44)	Aphids are not tolerated, because of virus transmission. Growers control infestations well.	no
	7.6 Moeras- en Waterplanten					7.6 Marsh and Water plants			yes, aphids (37)		yes
	7.7 Veredelingsteelt en basiszaadproductie van akkerbouw-, groente- en fruitgewassen, kruiden en sierteeltgewassen.					7.7 Plant breeding crops and basic seed production for arable, vegetable and fruit crops, herbs and ornamental crops			yes, aphids and whiteflies (44)	Aphids are not tolerated, because of virus transmission. Growers control infestations well.	no
<b>8. Openbaar groen en particuliere tuinen</b>					<b>8. Amenity areas</b>						

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
8.1 Grasvegetatie					8.1 Managed amenity turf						
		Gazon	incl. graszodenteelt				Lawn	including turf production	yes, aphids (see 1.6 grass seed crops)	Aphids have no chance to develop, because lawns are mown regularly.	no
		Speelweide	incl. graszodenteelt				Playground	including turf production	yes, aphids (see 1.6 grass seed crops)	Aphids have no chance to develop, because playgrounds are mown regularly.	no
		Sportveld	incl. golfterrein en graszodenteelt				Sports field	including golf courses and turf production	yes, aphids (see 1.6 grass seed crops)	Aphids have no chance to develop, because sports fields are mown regularly.	no
		Grasbermen					Grassy verges		yes, aphids (see 1.6 grass seed crops)	No insect control is carried out and grassy verges are mown only a few times per year.	yes
8.2 Houtige beplanting					8.2 Woody plantings				yes, aphids and cicadas (6)	Aphids and cicadas are tolerated.	yes
		Laan- en perkbomen					Avenue and border trees		see 8.2 Woody plantings	see 8.2 Woody plantings	yes
		Windsingels en -schermen en -hagen					Shelter belts, windbreaks and hedgerows		see 8.2 Woody plantings	see 8.2 Woody plantings	yes
		Overige houtige beplantingen	bosplantsoen en wegbeplanting				Other woody plantings	forest trees and roadside verges	see 8.2 Woody plantings	see 8.2 Woody plantings	yes
8.3 Kruidachtige beplanting					8.3 Herbaceous plantings				yes, aphids (6)	Aphids are tolerated.	yes
<b>9. Bosbouw</b>					<b>9. Forestry</b>				yes, aphids, cicadas and scale insects Honeybees have been shown to exploit honeydew from several forest trees (3, 9).	Honeydew producing insects are tolerated to a certain level.	yes
	9.1	Loofhout					9.1 Broad-leaved trees		see 9. Forestry	see 9. Forestry	yes
	9.2	Naaldhout					9.2 Coniferous trees		see 9. Forestry	see 9. Forestry	yes
<b>10. Onbeteeld terrein</b>					<b>10. Uncultivated land</b>						

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
	10.1 Tijdelijk onbeteeld terrein					10.1 Temporarily uncultivated terrain			yes, e.g. aphids on weeds (44)	Usually many weeds are present, so aphids will be present. No insect control is carried out.	yes
		Kaalslagterrein					Deforestation area		see 10.1 Temporarily uncultivated terrain	see 10.1 Temporarily uncultivated terrain	yes
		Tijdelijk onbeteeld land					Temporarily uncultivated land.		see 10.1 Temporarily uncultivated terrain	see 10.1 Temporarily uncultivated terrain	yes
	10.2 Permanent onbeteeld terrein					10.2 Permanently uncultivated land					
		Akkerranden					Buffer areas of fields		yes, aphids (44)	No insect control is carried out.	yes
		Gesloten verharding	verharding zonder voegen (bijv. asphalt of beton)				Hard surfaces	Impermeable surface e.g. asphalt, concrete	no (44)		no
		Half open verharding	elementverhardingen met voegen (bijv. trottoirtegels, straatstenen of ZOAB).				Half open surfaces	Surfaces made of paving, blocks or slabs, with joints (e.g. paving stones on pavements and roads, dual-layer porous asphalt	yes, e.g. aphids on weeds (44)	Usually some weeds are present, so aphids will be present. No insect control is carried out.	yes
		Open verharding	gestort of waterdoorlatend materiaal (bijv. grint, schelpen of grasbetontegels)				Permeable surfaces	Poured or water-permeable material (e.g. gravel, shells or grass	yes, e.g. aphids on weeds (44)	Usually some weeds are present, so aphids will be present. No insect control is carried out.	yes

Sector	Gewas (sub) groep	Gewassen / objecten	Opmerkingen	Eppo code	Sector	Crop (sub) group	Crops/Objects	Remarks	Host to honeydew producing insects? (information source)	Agricultural context in NL (expertise NVWA)	Conclusion <sup>4</sup>
								concrete tiles)			
		Onverhard terrein					Unpaved surfaces		yes, e.g. aphids on weeds (44)	Usually many weeds are present, so aphids will be present. No insect control is carried out.	yes
<b>11. Watergangen</b>					<b>11. Water courses</b>				yes, e.g. aphids on weeds (44)	Usually many weeds are present, so aphids will be present. No insect control is carried out.	yes
	11.1 (droog) Talud					11.1 (dry) slope			see 11. water courses	see 11. water courses	yes
	11.2 Droge slootbodems					11.2 Dry ditches			see 11. water courses	see 11. water courses	yes
	11.3 Watervoerende watergangen					11.3 Water courses which contain water			see 11. water courses	see 11. water courses	yes
	11.4 Onderhoudspaden van watergangen					11.4 Maintenance paths of water courses			see 11. water courses	see 11. water courses	yes
	11.5 Vijvers					11.5 Ponds			see 11. water courses	see 11. water courses	yes
<b>12. Riet- en wilgenteelt</b>					<b>12. Reed and osier crops</b>						
		Snijteen	droge en natte teelt				Osier	dry and wet crops	yes, aphids and mealybugs (44)	No insect control is carried out.	yes
		Riet					Reed		yes, e.g. aphids on weeds (many weeds can grow in reed fields for thatched roofs) (44) reed: no information available;	No insect control is carried out.	yes
<b>13. Afvalhopen</b>					<b>13. Refuse heaps</b>				yes, e.g. aphids on weeds or volunteer plants (44)	No insect control is carried out.	yes



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