

## **Instruction for the use of DRT classes and drift deposition values in the Dutch national environmental assessment and consequences for the label**

### **IMPORTANT NOTE:**

This instruction is intended as guidance for applicants to arrive at restriction sentences and assessments in line with the new requirements of the Activity Decree<sup>1</sup>. It must be read as an addition to and in conjunction with the relevant parts of the Evaluation Manual (version 2.2 and up)<sup>2</sup>.

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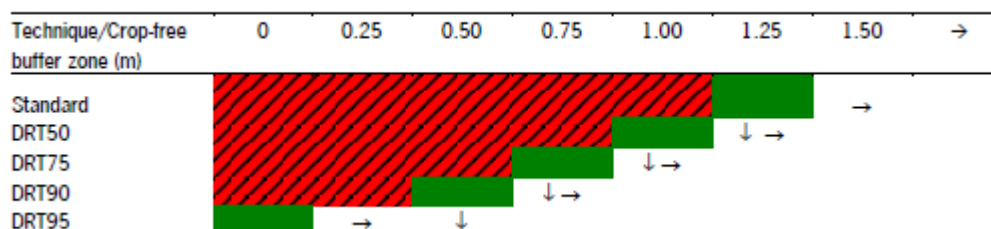
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<sup>1</sup> <https://wetten.overheid.nl/BWBR0022762/2019-07-01>

<sup>2</sup> <https://english.ctgb.nl/plant-protection/assessment-framework/evaluation-manuals>

## Section 1 Principle of drift reduction achievement and DRT classes

Drift reduction can be achieved by a combination of drift reducing techniques and/or additional crop free zones.



Example of drift matrix with combinations of drift reducing technology classes and width of the crop free buffer zone. Imagine that combinations in red do not meet the required drift deposition value and that refinement of the exposure can be achieved by a higher DRT class and/or a larger crop free (buffer) zone (based on Figure 29 from WUR-PRI 419 (2012)<sup>3</sup>).

Since 2018, drift reducing techniques are classified into DRT classes.

A DRT list is developed and maintained by the TCT in commission of the Dutch Ministry of Infrastructure and Water to facilitate the use (and enforcement of that use) of drift reduction techniques, as prescribed by the Activity Decree. The list can be found at:

<https://www.helpdeskwater.nl/onderwerpen/emissiebeheer/agrarisch/open-teelt/driftreducerende/> (document at right hand top of page)

The use of DRT classes also has an effect on the labels for plant protection products: there is no need to list multiple individual techniques. This makes labels more transparent.

Another positive effect is that as the DRT list is a 'living' list: there may with time be more options available in a DRT class, which provides more flexibility to the user within the label prescription (no need for a label change).

Only when drift mitigation above the general requirements of the Activity Decree is necessary to accomplish an acceptable risk, the label should include the required restrictions.

Additional crop free zones as buffer zone can be used to mitigate the exposure of aquatic or terrestrial non-target zones as well.

Ctgb will use DRT classes for all cases in which this is possible to align with the Activity Decree and to facilitate law enforcement. Individual techniques can only be mentioned in exceptional cases (see section 2 on assessment).

<sup>3</sup> <http://edepot.wur.nl/243240>. Zande, J.C van de, H.J Holterman & J.F.M Huijsmans. 2012. Spray drift for the assessment of exposure of aquatic organisms to plant protection products in the Netherlands. Part 1: field crops and downward spraying. WUR-PRI report 419.

## Section 2 Assessment

### 2.1 Surface water

The DRT class system is developed for the drift deposition on the evaluation zone for surface water. Hence, for this aspect Ctgb will prescribe exclusively DRT classes on the label. Individual techniques will not be prescribed anymore.

#### *Arable crops (downward sprayed)*

Baseline for the assessment currently is a generic drift deposition percentage of 0.5% (representing DRT75) for all crops covered by the Activity Decree. Note that this excludes the other uses such as field edges, hardened surfaces etc, see Evaluation Manual.

If the ecotoxicological risk assessment is passed using the exposure concentrations based on the drift deposition value(s) belonging to DRT75, there is no need for a restriction on the label since this is covered by the Activity decree.

If 90% drift reduction percentage is needed, currently a generic drift deposition value of 0.2% is used. When 95% or more reduction is required, the current procedure as described in the Evaluation Manual should be followed: the proposed drift deposition value must be substantiated with data, that show the drift deposition value of the proposed drift reduction method taking into account the actual crop free (buffer) zone and position of the last nozzle, underpinned with drift deposition values from, e.g., a WPR (Wageningen Plant Research, formerly WUR-PR) drift report for the relevant crop situation.

Important: in the current agronomic practice as described in the Activity Decree a farmer is allowed to reduce the crop free zone of 150 centimeter (only for intensively sprayed crops) to 100 cm when there is a *voluntary* use of a DRT90 or higher technique.

However if on the label a restriction of DRT90 or higher is prescribed, the DRT-class is not *voluntary* but *compulsory*. In that case for clarity it should be explicitly stated that the crop free zone should be 150 cm, unless the applicant has drift deposition data that show that the 150 cm is not required.

Refer to the section 3.2 on specific guidance how to apply this in the restriction sentence.

NB Currently, differentiation into crop free zone (and position of last nozzle) has not been implemented yet. This means that as a first step only one generic drift value is used for DRT75 for all downward sprayed crops (based on the drift values for potato, for a crop free zone of 150 cm): 0.5% (based on half the value used for 50% reduction, which was 1%).

#### *Fruit (upward and sideways sprayed)*

The generic reduction aim laid down in the Activity Decree is the use of DRT75 in combination with a crop free zone of 450 cm or DRT90 in combination with a crop free zone of 300 cm. However until 2021 several mitigation measures that do not meet these requirements are still allowed as a

transition. As these measures provide a higher drift deposition on the surface water than DRT75/450 cm or DRT90/300 cm this potential exposure is taken into account in the risk assessment procedure.

The assessment therefore starts with the drift deposition values belonging to these exceptions.

For surface water, this means that the starting point for the dormant stage (until May 1st) is the windbreak in combination with one-sided spraying of the last tree row giving a drift deposition value of 7%. For the full-leaf stage (from May 1<sup>st</sup> onwards) the starting point is a drift deposition value of 1.3% (tunnel sprayer in combination with the default minimum crop free zone of 300 centimeter).

If the ecotoxicological assessment is passed on the basis of the exposure due to these drift values, there is no need for a label restriction.

If the assessment is not passed a second step is required. For the dormant stage a drift deposition value of 5.0% applies (8.3% for biological production) and for the full-leaf stage a drift deposition value of 1.2%.

These values are based on the values for DRT75 + 450 cm crop free zone (except for biological production, for which DRT75 and 3 meter crop free zone applies) and covers for the drift deposition values for DRT90 with 300 cm crop free zone.

If this then results in an acceptable risk, a restriction sentence should be included to exclude the use of the transitionally allowed techniques and to specify that DRT90/300 cm or DRT75/450 cm is used, as follows:

*Om in het water levende organismen te beschermen is toepassing van dit middel op percelen die grenzen aan oppervlaktewater uitsluitend toegestaan indien op het gehele perceel gebruik wordt gemaakt van:*

*-een techniek uit tenminste de klasse DRT75 in combinatie met een teeltvrije zone van 450 centimeter, of*

*-een techniek uit tenminste de klasse DRT90.*

If more mitigation is required the values for higher DRT classes as described in the evaluation manual can be used. If in addition a further crop free zone is required, data concerning the resulting drift deposition values should be provided (e.g., a WPR report).

A restriction sentence will be required in all of these cases. See guidance for formatting the restriction sentences in the section below.

The drift dataset for fruit is based on measurements in large fruit (apple trees). There are no separate drift data for other types of upward/sideways sprayed fruit trees and shrubs.

For upward/sideway spraying in soft fruit (e.g., berries and grapes) the large fruit spray drift values are used. For all application periods only the full-leaf values are used.

For hop cultivation the large fruit spray drift values are used. For all application periods only the dormant stage values are used.

*Lane trees (sub-category of tree nursery crops in the DTG list)*

The assessment is split into the three stages that can be discerned in lane tree cultivation:

1. spindle trees (in Dutch: spillen)
2. transplanted trees (in Dutch: opzetters)
3. high lane trees (in Dutch: hoge laanbomen)

The generic reduction aim laid down in the Activity Decree is the use of DRT75 (with a standard requirement of 500 cm crop free zone with respect to the surface water body). However until 2021 a transitional period is given in the Activity Decree for all other available techniques. Hence also a standard technique is currently still allowed.

As some of these measures provide a higher drift deposition on the surface water than DRT75 this potential exposure is taken into account in the risk assessment procedure. Therefore in principle the risk assessment procedure for lane trees is as it was before the change in the Activity decree, with the exception that restrictions will mention DRT classes instead of individual techniques.

The assessment therefore starts with the drift deposition values belonging to the standard situation (see Evaluation Manual for the drift deposition values).

If the ecotoxicological assessment is passed on the basis of the exposure due to these drift values, there is no need for a label restriction.

If the assessment is not passed a second step is required. In this case, as all techniques are still allowed, this may also consist of a DRT50 technique. If the assessment is then passed, the DRT50 should be explicitly mentioned on the label. After 2021 this label mentioning DRT50 will be overruled by the generic requirement of the use of a DRT75 technique.

The options described in the evaluation manual to use drift deposition values based on a standard spraying technique or a DRT50 technique in combination with an additional crop free zone of 5 meter (hence a total crop free zone of 10 meter) are still allowed. See section 3.3 on restrictions for special cases on how to construct the sentence.

If the use of standard spraying technique or DRT50 (with or without the combination with an additional crop free zone) does not pass the ecotoxicological assessment then an assessment based on DRT75 or higher as required should be performed. In all cases, when the standard drift value does not lead to an acceptable risk, a restriction sentence should be included on the label.

## 2.2 Terrestrial non-target arthropods and plants

The DRT class system is developed for the drift deposition on the evaluation zone for surface water. The evaluation zones for non-target arthropods (NTA) and non-target terrestrial plants (NTP) are closer to the crop and especially for the NTA risk assessment regarding downward sprayed crops the DRT classification system is not working well (see below). Therefore, individual techniques can be prescribed in cases that more drift reduction is necessary than can be achieved on the basis of the drift deposition values assigned to the DRT classes.

### Arable crops (downward sprayed)

#### *Non-target arthropods (NTA)*

For the NTA assessment for downwards sprayed crops the drift percentage of 5.5% belonging to the reference spray technique of the DRT class 75, will be used as the baseline.

Table 1 of the Evaluation Manual version 2.2, NL part, chapter 7 Ecotoxicology; terrestrial; non target arthropods and plants, mentions the drift% for the different DRT classes. It is clear that the DRT classification does not always correspond to the reduction that is achieved at the evaluation zone for non-target arthropods. The drift% for DRT75, DRT90 and DRT 95 are all 5.5% (for DRT97.5 and DRT99 the drift is 1.6%). Within the classes the drift percentage differs quite a lot between the different techniques in a class. Therefore, if more drift reduction is needed than what is possible based on the DRT classes, individual drift reduction techniques may be mentioned on the label.

Alternatively a larger crop free zone can be proposed. In that case, data concerning the resulting drift deposition values should be provided (e.g., a WPR report).

Keep also in mind that with an additional crop-free zone of 1 meter, the drift is the same as on the evaluation zone for non-target terrestrial plants (see below). For non-target plants the DRT classification corresponds much better to the reduction achieved at the evaluation zone for non-target terrestrial plants, so it could be possible to apply DRT classes in combination with an additional crop-free zone of 100 centimeter (the total crop-free zone is then 200 centimeter).

#### *Non-target terrestrial plants (NTP)*

For the NTP assessment for downwards sprayed crops the drift percentage of 0.9% belonging to the reference spray technique of the DRT class 75, will be used as the baseline.

Table 6 of the Evaluation Manual version 2.2, NL part, chapter 7 Ecotoxicology; terrestrial; non target arthropods and plants, mentions the drift% for the different DRT classes. For NTP the DRT classification corresponds better to the reduction that is achieved at the evaluation zone for non-target plants in comparison with non-target arthropods. Hence, in principle the DRT classification will be followed. In exceptional cases individual drift reduction techniques may be mentioned on the label.

Alternatively a larger crop free zone can be proposed. In that case, data concerning the resulting drift deposition values should be provided (e.g., a WPR report).

### Fruit (upward and sideways sprayed)

#### *Non-target arthropods and terrestrial plants (NTA and NTP)*

For NTA and NTP the baseline for drift is not DRT75 and 4.5 m crop-free like for surface water, but DRT90 and 3 m crop-free, which gives the highest drift. The baseline drift% for NTA and NTP are 10.6% (dormant) and 3.8% (full leaf).

Hence, in the case of NTA and NTP there is no problem with the drift reduction measures which are only allowed during a transitional period until 2021 (tunnel sprayer and windbreak), because these measures have a lower drift% than the baseline and are therefore covered.

The drift dataset for fruit is based on measurements in large fruit (apple trees). There are no separate drift data for other types of upward/sideways sprayed fruit trees and shrubs. See explanation in the surface water section for the drift values for soft fruit and hop cultivation.

Since the DRT classification system is working relatively well for fruit crops, in principle the DRT classification has to be followed. Exceptional cases should be accompanied by an adequate substantiation.

### Lane trees (sub-category of tree nursery crops in the DTG list)

#### *Non-target arthropods and terrestrial plants (NTA and NTP)*

The assessment is split into the three stages that can be discerned in lane tree cultivation:

1. spindle trees (in Dutch: spillen)
2. transplanted trees (in Dutch: opzetters)
3. high lane trees (in Dutch: hoge laanbomen)

As explained in the surface water section, the Activity Decree currently allows for the use of a standard technique. The assessment therefore starts with the drift deposition values belonging to the standard situation (see Evaluation Manual for the drift deposition values). Please note that several crop free zones may be applicable depending on whether the field border is located next to surface water.

If the ecotoxicological assessment is passed on the basis of the exposure due to these drift values, there is no need for a label restriction.

If the assessment is not passed a second step is required. In this case, as all techniques are still allowed, this may also consist of a DRT50 technique. If the assessment is then passed, the DRT50 should be explicitly mentioned on the label. After 2021 this label mentioning DRT50 will be overruled by the generic requirement of the use of a DRT75 technique.

All drift% for lane trees are mentioned in table 4 of the Evaluation Manual version 2.2, NL part, chapter 7 Ecotoxicology; terrestrial; non target arthropods and plants. From this table it appears that it will be difficult to apply DRT classes for NTA/NTP in the case of transplanted and spindle trees, especially with a crop-free zone of 1.5/2m, since a higher DRT class has a similar or higher drift percentage. Therefore, if more drift reduction is needed than possible based on DRT classes, individual drift reduction techniques may be mentioned on the label. Refer to a former version of the Evaluation Manual ( [Evaluation Manual version 2.1, NL part, chapter 7 Ecotoxicology; terrestrial; non target arthropods and plants](#)) for these techniques.

Alternatively a larger crop free zone can be proposed. In that case, data concerning the resulting drift deposition values should be provided (e.g., a WPR report).



## Section 3 Formulation of restriction sentences for the label

### 3.1 Format of restriction sentences

For the format for drift restriction sentences see also

<https://www.ctgb.nl/gewasbeschermingsmiddelen/documenten/toetsingskader-gewasbeschermingsmiddelen/2019/03/27/restrictiezinnen>, sentence 73-76)

#### **General format**

“ Om .... te beschermen, is toepassing in de teelt van [...] (op percelen die [niet] grenzen aan oppervlaktewater) uitsluitend toegestaan indien op het gehele perceel gebruik wordt gemaakt van [een techniek uit tenminste de klasse DRTxx /een individuele techniek ] ( in combinatie met een teeltvrije zone van tenminste xx centimeter) [*only when required, just mention total crop free zone*].”

#### **Aquatic organisms**

“Om in het water levende organismen te beschermen, is toepassing in de teelt van [...] op percelen die grenzen aan oppervlaktewater uitsluitend toegestaan indien op het gehele perceel gebruik wordt gemaakt van [een techniek uit tenminste de klasse DRTxx /een individuele techniek ] ( in combinatie met een teeltvrije zone van tenminste xx centimeter gemeten vanaf het midden van de laatste gewasrij/bomenrij of de laatste plant/boom in de rij tot aan de insteek van de sloot) [*only when required, just mention total crop free zone*].”

#### **Terrestrial non-target organisms**

“Om niet tot de doelsoorten behorende [geleedpotigen/ insecten/planten] te beschermen, is toepassing in de teelt van [...] (op percelen die niet grenzen aan oppervlaktewater) uitsluitend toegestaan indien op het gehele perceel gebruik wordt gemaakt van [een techniek uit tenminste de klasse DRTxx /een individuele techniek ] ( in combinatie met een teeltvrije zone van tenminste xx centimeter gemeten vanaf het midden van de laatste gewasrij/bomenrij of de laatste plant/boom in de rij tot aan de perceelgrens) [*only when required, just mention total crop free zone*].”

#### **Combined sentence**

“Om in het water levende organismen en niet tot de doelsoorten behorende [geleedpotigen/ insecten/planten] te beschermen, is toepassing in de teelt van [...] uitsluitend toegestaan indien op het gehele perceel gebruik wordt gemaakt van [een techniek uit tenminste de klasse DRTxx /een individuele techniek ] ( in combinatie met een teeltvrije zone van tenminste xx centimeter gemeten vanaf het midden van de laatste gewasrij/bomenrij of de laatste plant/boom in de rij tot aan de insteek van de sloot of de perceelgrens) [*only when required, just mention total crop free zone*].”

### General rules:

1. only mention restrictions that exceed the requirements already laid down in the Activity Decree (but mind the transitional measures)
2. mention that the restriction is for the whole field (in Dutch: '**op het gehele perceel**')
3. when an additional crop free zone is required, mention the total crop free zone (minimum agronomic zone and/or as in Activity Decree, summed with the additional crop free zone), in centimeters
4. for **intensively sprayed crops** (see article 3.80 sub 1 of the Activity Decree) in case DRT90 or more is required due to the risk assessment the default crop free zone of 150 centimeter should be mentioned if the restrictions apply to surface water.

This concerns the following crops: potatoes, onions, flower bulbs/tubers, strawberries, asparagus, leek, salsify, lettuce, carrots, perennials, downward sprayed tree nursery crops (in Dutch in Activity Decree: **aardappelen, uien, bloembollen en bloemknollen, aardbeien, asperges, prei, schorseneren, sla, wortelen, vaste planten, en in neerwaartse richting te bespuiten boomkwekerijgewassen**)

See section 2.2 specific guidance how to formulate this when restrictions are needed for both intensively sprayed crops and other crops.

### When should restriction sentences for different protection goals be combined (and when not)?

- if the restrictions for aquatic organisms are more stringent than for NTA/NTP then two different restrictions are required: one for fields bordering surface water and one for fields not bordering surface water. Each of the two sentences should contain the protection goal and the type of field (adjacent/not adjacent to surface water)
- if the restrictions for NTA/NTP are more stringent than for aquatic organisms then only one restriction sentence is required (valid on all fields, so no need to mention fields adjacent to surface water or not)
  - o as a consequence, when additional crop free zones are required (also in the case that 150 centimeter is required for the intensively sprayed crops), it should be specified for which side(s) of the field these apply.
- The following phrases should be used in case an *additional* crop free zone (with respect to the minimum defined for each protection goal) is needed, then the *total* crop free zone should be mentioned:
  - o When required for water: 'teeltvrije zone gemeten vanaf het midden van de laatste gewasrij/bomenrij of de laatste plant/boom in de rij tot aan de insteek van de sloot'
  - o When required for NTA/NTP: 'teeltvrije zone gemeten vanaf het midden van de laatste gewasrij/bomenrij of de laatste plant/boom in de rij tot aan de perceelgrens'

- When required for water and NTA/NTP combined: ‘teeltvrije zone gemeten vanaf het midden van de laatste gewasrij/bomenrij of de laatste plant/boom in de rij tot aan de insteek van de sloot of de perceelgrens’

In addition please note the following- if in the case of NTA/NTP a label with specific techniques results, and it is a combined sentence (to protect also aquatic organisms), it has to be checked if these techniques also cover the risk for surface water. This may not be the case, because the drift curve of a selected specific technique can have an other shape than the curve of the reference technique of a certain DRT class. For that reason the specific technique could have lower drift reduction on the DRT classification zone (surface water) and belongs to a lower DRT class. A specific technique from a lower DRT class may have the lowest drift for NTA/NTP, but if this technique does not cover the risk for aquatic organisms, it is not possible to include the technique in a combined restriction sentence. In that case the restriction sentences should be split in a sentence for aquatic organisms and one for NTA/NTP.

Furthermore it is not possible to prescribe a specific technique on the label which gives low drift on the evaluation zone for NTA, but which does not belong to at least class DRT75 , because then the criteria of the Activity Decree are not fulfilled.

### 3.2 Specific guidance

Agreements when more than one technique (class) is possible:

Use bullet points. First mention DRT classes, then individual techniques

*.....uitsluitend toegestaan indien op het gehele perceel gebruik wordt gemaakt van:*

- *een techniek uit tenminste de klasse DRTxxx, of*
- *een techniek uit tenminste de klasse DRTxxx, in combinatie met een teeltvrije zone van xx centimeter, of*
- *individual technique 1, of*
- *individual technique 2*

Multiple crops with the same restriction

If a restriction is valid for all crops on the label, there is no need to list the crops in the restriction sentence. Exception: when part of the crops are intensively sprayed crops, and all crops need DRT90 or higher for surface water, then the intensively sprayed crops should be mentioned as follows:

*Om in het water levende organismen te beschermen, is toepassing op percelen die grenzen aan oppervlaktewater uitsluitend toegestaan indien op het gehele perceel gebruik wordt gemaakt van een techniek uit tenminste de klasse DRTxx, **waarbij in de teelt van [xxx] een teeltvrije zone van***

**tenminste 150 centimeter gemeten vanaf het midden van de laatste gewasrij of de laatste plant in de rij tot aan de insteek van de sloot dient te worden aangehouden.**

List of intensively sprayed crops (Article 3.80 sub 1 and 2 of the [Activity Decree](#)).

NL: aardappelen, uien, bloembollen en bloemknollen, aardbeien, asperges, prei, schorseneren, sla, wortelen, vaste planten, en in neerwaartse richting te bespuiten boomkwekerijgewassen

UK: potatoes, onions, flower bulbs, strawberries, asparagus, leek, salsify, lettuce, carrots, perennials, tree nursery crops (downward sprayed)

#### - Dose differentiation

It depends on the number of dose rates and the number of restrictions how this can be described best. In case of different dose rates in the same crops, the sentences can be constructed as follows:

#### **Option 1 (multiple dose rates and one restriction per dose rate) :**

*Om [...] te beschermen, is toepassing op percelen die grenzen aan oppervlaktewater uitsluitend toegestaan*

*- indien bij een dosering tot en met x L/ha op het gehele perceel gebruik wordt gemaakt van een techniek uit tenminste de klasse DRTx, en*

*- indien bij een dosering tussen x en xx L/ha op het gehele perceel gebruik wordt gemaakt van een techniek uit tenminste de klasse DRTxx.*

#### **Option 2 (multiple restrictions for one dose rate, in case lower dose rates do not need mitigation):**

*Om [...] te beschermen is toepassing van het middel met een dosering groter dan [x] L/ha tot maximaal [xx] L/ha, uitsluitend toegestaan indien op het gehele perceel gebruik wordt gemaakt van:*

*- een techniek uit tenminste de klasse DRTxxx, of*

*- een techniek uit tenminste de klasse DRTxx in combinatie met een teeltvrije zone van tenminste xx centimeter (gemeten vanaf het midden van de laatste gewasrij of de laatste plant in de rij tot aan de perceelgrens), of*

*- een techniek uit tenminste de klasse DRTx in combinatie met een teeltvrije zone van tenminste xxx centimeter (gemeten vanaf het midden van de laatste gewasrij of de laatste plant in de rij tot aan de perceelgrens).*

### 3.3 Special situations per crop group

#### *Arable crops*

In the case that the crop-free zone of 150 centimeter for intensively sprayed crops must be mentioned, the following phrase applies:

*Om in het water levende organismen te beschermen, is toepassing op percelen die grenzen aan oppervlaktewater uitsluitend toegestaan indien op het gehele perceel gebruik wordt gemaakt van een techniek uit tenminste de klasse DRTxx, **waarbij in de teelt van [xxx] een teeltvrije zone van tenminste 150 centimeter gemeten vanaf het midden van de laatste gewasrij of de laatste plant in de rij tot aan de insteek van de sloot dient te worden aangehouden.***

List of intensively sprayed crops (Article 3.80 sub 1 and 2 of the [Activity Decree](#)).

NL: aardappelen, uien, bloembollen en bloemknollen, aardbeien, asperges, prei, schorseneren, sla, wortelen, vaste planten, en in neerwaartse richting te bespuiten boomkwekerijgewassen

UK: potatoes, onions, flower bulbs, strawberries, asparagus, leek, salsify, lettuce, carrots, perennials, tree nursery crops (downward sprayed)

#### *Fruit crops*

In the case that a distinction must be made in applications in fruit before the 1st of May and from the 1st of May onwards the following sentence applies:

*Om in het water levende organismen te beschermen, is toepassing in de teelt van appel en peer op percelen die grenzen aan oppervlaktewater uitsluitend toegestaan indien:*

*- voor 1 mei op het gehele perceel gebruik wordt gemaakt van:*

*\* een techniek uit tenminste de klasse DRTxxx, of*

*\* een techniek uit tenminste de klasse DRTxx in combinatie met een teeltvrije zone van tenminste 450 centimeter gemeten vanaf het midden van de laatste bomenrij of de laatste boom in de rij tot aan de insteek van de sloot.*

*- vanaf 1 mei op het gehele perceel gebruik wordt gemaakt van:*

*\* een techniek uit tenminste de klasse DRTxx, of*

*\* van een techniek uit tenminste de klasse DRTx in combinatie met een teeltvrije zone van tenminste 450 centimeter gemeten vanaf het midden van de laatste bomenrij of de laatste boom in de rij tot aan de insteek van de sloot.*

## Lane trees

For lane trees in specific cases a standard or DRT50 technique may be prescribed in combination with an additional crop free zone of 5 meter (since the Activity Decree does not oblige the use of 75% drift reduction for lane tree cultivation till 2021) .

This means that for surface water the total crop free zone becomes 1000 cm. For NDA/NDP the total crop free zone becomes 650/700 cm (depending on whether the agronomic minimum is 1.5 of 2.0 m depending on crop stage)

Standard technique:

*Om [...] te beschermen is toepassing in de onbedekte teelt van [hoge laanbomen/opzetters/spillen] [op percelen die grenzen aan oppervlaktewater] uitsluitend toegestaan indien op het gehele perceel gebruik wordt gemaakt van een standaard axiaal- of dwarsstroomspuit in combinatie met een teeltvrije zone van tenminste [650/700/1000] centimeter gemeten vanaf het midden van de laatste bomenrij of de laatste boom in de rij tot aan de insteek van de sloot/de perceelgrens. In deze teeltvrije zone mogen gewassen geteeld worden van tenminste dezelfde hoogte als het te bespuiten gewas, waarin geen gewasbeschermingsmiddelen worden gespoten\*.*

\* Deze gewassen dienen gekozen te worden uit het CIW rapport vermeld in de Nota van toelichting bij het Activiteitenbesluit, Artikel 3.80: *Op grond van het vijfde lid moet voor de opwaarts bespoten boomkwekerijgewassen, zoals laan- en parkbomen, een teeltvrije zone van tenminste 500 cm worden aangehouden. In de teeltvrije zone mogen gewassen geteeld worden waarin geen gewasbeschermingsmiddelen worden gespoten. Dit komt overeen met de CIW aanbevelingen (Commissie Integraal Waterbeheer, 1998. Protocol opwaarts spuiten voor (laan)bomen) voor de vergunningverlening, waarin bovendien een lijst van gewassen is opgenomen die niet bespoten worden.*

DRT50 technique

*Om [...] te beschermen is toepassing in de onbedekte teelt van [hoge laanbomen/opzetters/spillen] [op percelen die grenzen aan oppervlaktewater] uitsluitend toegestaan indien op het gehele perceel gebruik wordt gemaakt van een techniek uit tenminste de klasse DRT50 in combinatie met een teeltvrije zone van tenminste [650/700/1000] centimeter gemeten vanaf het midden van de laatste bomenrij of de laatste boom in de rij tot aan de insteek van de sloot/de perceelgrens. In deze teeltvrije zone mogen gewassen geteeld worden van tenminste dezelfde hoogte als het te bespuiten gewas, waarin geen gewasbeschermingsmiddelen worden gespoten\*.*

\* Deze gewassen dienen gekozen te worden uit het CIW rapport vermeld in de Nota van toelichting bij het Activiteitenbesluit, Artikel 3.80: *Op grond van het vijfde lid moet voor de opwaarts bespoten boomkwekerijgewassen, zoals laan- en parkbomen, een teeltvrije zone van tenminste 500 cm worden aangehouden. In de teeltvrije zone mogen gewassen geteeld worden waarin geen*

*gewasbeschermingsmiddelen worden gespoten. Dit komt overeen met de CIW aanbevelingen (Commissie Integraal Waterbeheer, 1998. Protocol opwaarts spuiten voor (laan)bomen) voor de vergunningverlening, waarin bovendien een lijst van gewassen is opgenomen die niet bespoten worden.*

**Restrictions in the form of a table.**

In exceptional (complex) cases listing of restriction sentences may be unclear. In that case the restrictions may be given in a tabulated format. This will be decided by Ctgb on a case by case basis.

## Appendix 1

*Formulation of individual techniques from the DRT list.*

### Rewriting of individual techniques to DRT terminology

In principle individual techniques are not prescribed anymore, since the DRT classes provide a clearer and shorter label and the user has more flexibility to pick a technique of his choice from the (living) DRT list.

As explained in Section 2.2 in some cases it has shown to be inevitable to prescribe individual techniques to achieve a required level of drift reduction, especially for NTA and in some exceptional cases for NTP, see also further explanation in the Evaluation Manual.

Please note that in many cases the use of DRT classes is possible for NTA as well, when an additional crop free zone of 1 meter is proposed (in that case the drift deposition values of the DRT classes for NTP apply).

When individual techniques (from E.M. 2.1. or from specific drift reports) are currently prescribed on the label of existing products and during conversion of the label it becomes clear that individual techniques are still required, they should be rewritten to meet the DRT list description as far as feasible, so that user and law enforcement have one single basis for communication. This also applies to new products for which the risk assessment (for NTA) cannot be passed on the basis of the drift deposition values belonging to the DRT classes.

However the DRT list uses terms with many summation signs. To make a readable sentence this should be changed into terms such as 'in combinatie met', 'en', 'met', etcetera.

Example:

Text in DRT list: *Veldspuit + spuitdoppen ten minste DRD 90% + bijbehorende driftarme kantdop*

On the label: *een veldspuit in combinatie met spuitdoppen van tenminste DRD 90% met bijbehorende driftarme kantdop*



### Techniques apparently not in the DRT list

Example:

'boom sprayer with air assistance' is only given in the DRT list with 'at least DRD50' (in DRT class 90) or with 'at least' DRD90 (in DRT class 95). However if the risk assessment is based on the drift deposition value available for this technique in combination with DRD75 (75% drift reducing nozzles) this may be sufficient to show an acceptable risk. Then, it would not be protective enough to mention the combination listed in the DRT list in which DRD50 is prescribed, but it would be overly protective to mention the DRD90.

As the classification merely means that the use of DRD75 did not lead to a different class (hence the use of DRD75 is implicitly included in the 'at least DRD50') this does not mean that DRD75 cannot be used on the label. In the case that such a technique is prescribed as individual technique it is not really relevant that the technique meets exactly the DRT list. However the description of the restriction should be as much as possible in line with the DRT list.

Old Ctgb format:

*- conventionele spuit met minimaal 75% driftreducerende spuitdoppen in combinatie met een kantdop en luchtondersteuning*

Should then be rewritten as:

*- Veldspuit met luchtondersteuning in combinatie met spuitdoppen van tenminste DRD75% met bijbehorende driftarme kantdop*

In the table below the currently available individual techniques listed in Evaluation Manual 2.1 (for NTA and NTP) are translated to the DRT format. These sentences should be used when the use of individual techniques is inevitable to demonstrate an acceptable risk.

Other individual techniques can only be accepted when drift deposition values on the evaluation zone are submitted.

Description in EM 2.1 (based on WPR/PRI report 149 <sup>4</sup> )	Drift deposition value at standard crop free zone (NTA 50-150 cm/ NTP 150-250 cm))	Term in DRT list	DRT class	Phrase to be used for label text	Remark
<i>Techniques without air assistance</i>					
Conventional XR11004 = Conventionele spuit + standaard spleetdop (old standard technique)	Drift 50-150 cm 9.9% Drift 150-250 cm 4.7%	-	< DRT75	-	Do not use (Activity Decree requires at least 75% spray drift reduction)
- Conventional DG11004 = Conventionele spuit + minimaal 50% driftreducerende spuitdop	Drift 50-150 cm 7.1% Drift 150-250 cm 1.7%	-	< DRT75	-	Do not use
Conventional DG11004 + end nozzle = Conventionele spuit + minimaal 50% driftreducerende spuitdop + kantdop	Drift 50-150 cm 5.5 % Drift 150-250 cm 1.5%	-	< DRT75	-	Do not use
Conventional ID12002 = Conventionele spuit + 75% driftreducerende spuitdop	Drift 50-150 cm 7.1% Drift 150-250 cm 1.0%	-	No end nozzle	-	Do not use (Activity Decree prescribes the use of an end nozzle)
- Conventional ID12002 + end nozzle = Conventionele spuit + 75% driftreducerende spuitdop + kantdop	Drift 50-150 cm: 5.5% Drift 150-250 cm: 0.9%	Veldspuit + spuitdoppen ten minste DRD 75% + bijbehorende driftarme kantdop	DRT75	Veldspuit met spuitdoppen van tenminste DRD 75% in combinatie met een driftarme kantdop	
Conventional XLTD04-110 =	Drift 50-150 cm	-	No end	-	Do not use

<sup>4</sup> Van de Zande, J.C., J.M.G.P. Michielsen & H. Stallinga., *Spray drift and off-field evaluation of agrochemicals in the Netherlands, Report 149, July 2007*

Conventionele spuit + 90% driftreducerende spuitdop	9.7% Drift 150-250 cm 1.3%		nozzle		
Conventional XLTD04-110 + end nozzle = Conventionele spuit + 90% driftreducerende spuitdop + kantdop	Drift 50-150 cm: 7.5% Drift 150-250 cm: 1.4%	Veldspuit + spuitdoppen ten minste DRD 90% + bijbehorende driftarme kantdop	DRT90	Veldspuit met spuitdoppen van tenminste DRD 90% in combinatie met een driftarme kantdop	
- Low boom DG80015 + end nozzle = Lage spuitboomhoogte (maximaal 30 cm boven de top van het gewas) + minimaal 50% driftreducerende spuitdop + kantdop	Drift 50-150 cm 3.1% Drift 150-250 cm 0.9%	veldspuit met verlaagde spuitboom + spuitdophoogte maximaal 30 cm + dopafstand 25 cm + spuitdoppen met ten minste druppelgrootte M met een tophoek van maximaal 90° + kantdop met ten minste druppelgrootte M	< DRT75	-	Do not use
- Low boom ID90015 + end nozzle = Lage spuitboomhoogte (maximaal 30 cm boven de top van het gewas) + driftarme Venturidop + kantdop	Drift 50-150 cm 3.9% Drift 150-250 cm 0.3%	Veldspuit met verlaagde spuitboom + spuitdoppen ten minste DRD 50% met tophoek van maximaal 90° of spuitdoppen Lechler ID 90-015* (met een maximale spuitdruk van 3 bar) + bijbehorende driftarme kantdop + spuitdopafstand 25 cm + spuitdophoogte maximaal 30 cm <i>* gebruik grotere maat van deze spuitdoppen is toegestaan, mits spuitdruk maximaal 3 bar bedraagt</i>	DRT90	Veldspuit met verlaagde spuitboom in combinatie met spuitdoppen van tenminste DRD 50% met een tophoek van maximaal 90 graden of spuitdoppen Lechler ID 90-015* (met een maximale spuitdruk van 3 bar) en bijbehorende driftarme kantdop en spuitdopafstand 25 cm en spuitdophoogte maximaal 30 cm <i>* gebruik grotere maat van deze spuitdoppen is toegestaan, mits spuitdruk maximaal 3 bar bedraagt</i>	
Släpduk XR110015 = Sleepdoek + standaard spleetdop	Drift 50-150 cm 3.4% Drift 150-250 cm 0.6%	Veldspuit met sleepdoeksysteem + spuitdoppen ten minste druppelgrootte F + kantdop ten minste druppelgrootte F + sleepdoek afsteunen op gewas en kale grond in combinatie met spuitdophoogte maximaal 20 cm + spuitdopafstand maximaal 33 cm	DRT75	Veldspuit met sleepdoeksysteem in combinatie met spuitdoppen van tenminste druppelgrootte F en een kantdop van tenminste druppelgrootte F waarbij de sleepdoek wordt afgesteund op gewas en kale grond in combinatie met een spuitdophoogte van maximaal 20 cm en een	

				sputdopafstand van maximaal 33 cm	
Släpduk AI110015 = Sleepdoek + minimaal 50% driftreducerende spuitdop	Drift 50-150 cm 2.5% Drift 150-250 cm 0.03%	Veldspuit met sleepdoeksysteem+ spuitdoppen ten minste DRD 50% of TeeJet AI 110-015 en spuitdruk maximaal 3 bar + bijbehorende kantdop + sleepdoek afsteunen op gewas en kale grond in combinatie met spuitdophoogte maximaal 20 cm + spuitdopafstand maximaal 33 cm	DRT99	Veldspuit met sleepdoeksysteem in combinatie met TeeJet AI 110-015 spuitdoppen en een spuitdruk van maximaal 3 bar of tenminste DRD 50% en een bijbehorende kantdop waarbij de sleepdoek wordt afgesteund op gewas en kale grond in combinatie met een spuitdophoogte van maximaal 20 cm en een spuitdopafstand van maximaal 33 cm	
Tunnel XR11004 + UB8504 = Overkapte beddenspuit	Drift 50-150 cm: 0.26% Drift 150-250 cm: 0.21%	Overkapte beddenspuit (tunnelspuit voor beddenteelt) + spuitdoppen ten minste druppelgrootte M + kantdop aan beide kanten van de spuit met ten minste druppelgrootte M	DRT95	Overkapte beddenspuit in combinatie met spuitdoppen van tenminste druppelgrootte M en een kantdop aan beide kanten van de spuit van tenminste druppelgrootte M	
<i>Techniques with air assistance</i>					
Conventional XR11004 = Conventionele spuit + standaard spleetdop + luchtondersteuning	Drift 50-150 cm: 7.9% Drift 150-250 cm: 1.9%	-	< DRT75	-	Do not use
- Conventional DG11004 = Conventionele spuit + minimaal 50% driftreducerende spuitdop + luchtondersteuning	Drift 50-150 cm: 5.7% Drift 150-250 cm: 1.2%	-	No end nozzle	-	Do not use (no end nozzle)
Conventional DG11004 + end nozzle = Conventionele spuit + minimaal 50% driftreducerende spuitdop + kantdop + luchtondersteuning	Drift 50-150 cm: 3.3% Drift 150-250 cm: 0.9%	Veldspuit met luchtondersteuning + spuitdoppen ten minste DRD50% + bijbehorende driftarme kantdop	DRT90	Veldspuit met luchtondersteuning in combinatie met spuitdoppen van tenminste DRD 50% en een bijbehorende driftarme kantdop	
Conventional ID12002 =	Drift 50-150 cm:	-	No end	-	Do not use (no end

Conventionele spuit + 75% driftreducerende spuitdop + luchtondersteuning	6.9 % Drift 150-250 cm: 0.9 %		nozzle		nozzle)
Conventional ID12002 + end nozzle = Conventionele spuit + 75% driftreducerende spuitdop + kantdop + luchtondersteuning	Drift 50-150 cm: 4.1% Drift 150-250 cm: 0.7%	Not in DRT list (only options with either 50% or 90% reducing nozzles)	DRT90 (since DRD50 + air assistance also leads to DRT90)	Veldspuit met luchtondersteuning in combinatie met spuitdoppen van tenminste DRD 75% en een bijbehorende driftarme kantdop	Not included in the DRT list since class distinction is between air assistance in combination with DRD50 and DRD90. However if these drift deposition values are used and show acceptable risk the technique may be placed on the label
Conventional XLTD04-110 = Conventionele spuit + 90% driftreducerende spuitdop + luchtondersteuning	Drift 50-150 cm: 9.4% Drift 150-250 cm: 0.9%	-	- (no end nozzle)	-	Do not use
Conventional XLTD04-110 + end nozzle = Conventionele spuit + 90% driftreducerende spuitdop + kantdop + luchtondersteuning	Drift 50-150 cm: 5.6% Drift 150-250 cm: 0.6%	Veldspuit met luchtondersteuning + spuitdoppen ten minste DRD 90% + bijbehorende driftarme kantdop	DRT95	Veldspuit met luchtondersteuning in combinatie met spuitdoppen van tenminste DRD 90% en een bijbehorende driftarme kantdop	
- Low boom DG80015 + end nozzle = Lage spuitboomhoogte (maximaal 30 cm boven de top van het gewas) + minimaal 50% driftreducerende spuitdop + kantdop + luchtondersteuning	Drift 50-150 cm: 1.8% Drift 150-250 cm: 0.3%	Veldspuit met verlaagde spuitboom met luchtondersteuning + spuitdoppen met druppelgrootte M met een tophoek van maximaal 90°* + kantdop ten minste druppelgrootte M + spuitdopafstand 25 cm + spuitdophoogte maximaal 30 cm <i>* spuitdoppen die in ieder geval voldoen:</i>	DRT90	Veldspuit met verlaagde spuitboom met luchtondersteuning in combinatie met spuitdoppen van tenminste druppelgrootte M met een tophoek van maximaal 90 graden en een kantdop van ten minste druppelgrootte M in combinatie met een spuitdopafstand 25 cm en een spuitdophoogte van maximaal 30 cm	

		<i>TeeJet DG 80-015, TeeJet XR 80-015, TeeJet TP 80-015, Lechler AD 90-015, Lechler LU 90-015, Hardi ISO F-015-80, Albuz APE 80-02 en Albuz AXI 80-015 of een grotere maat van betreffende spuitdoppen (spuitdruk maximaal 3 bar)</i>			
- Low boom ID90015 + end nozzle = Lage spuitboomhoogte (maximaal 30 cm boven de top van het gewas) + driftarme Venturidop + kantdop + luchtondersteuning	Drift 50-150 cm: 1.0% Drift 150-250 cm: 0.1%	Veldspuit met verlaagde spuitboom met luchtondersteuning + spuitdoppen tenminste DRD 50% met een tophoek van maximaal 90° of spuitdoppen Lechler ID 90-015 * (met een maximale spuitdruk van 3 bar) + bijbehorende driftarme kantdop + spuitdopafstand van 25 cm + spuitdophoogte van maximaal 30 cm	DRT97,5	Veldspuit met verlaagde spuitboom met luchtondersteuning in combinatie met spuitdoppen van tenminste DRD 50% met een tophoek van maximaal 90 graden of spuitdoppen Lechler ID 90-015 (met een maximale spuitdruk van 3 bar) met bijbehorende driftarme kantdop en een spuitdopafstand van 25 cm in combinatie met een spuitdophoogte van maximaal 30 cm	
Conventionele spuit + standaard spleetdop + Hardi Twin Force luchtondersteuning	Drift 50-150 cm: 4.0% Drift 150-250 cm: 0.9%	Veldspuit met Hardi Twin Force luchtondersteuning + spuitdoppen ten minste druppelgrootte M + kantdop ten minste druppelgrootte M	DRT75	Veldspuit met Hardi Twin Force luchtondersteuning in combinatie met spuitdoppen van tenminste druppelgrootte M en een kantdop ten minste druppelgrootte M	
Conventionele spuit + minimaal 50% driftreducerende spuitdop + kantdop + Hardi TwinForce luchtondersteuning	Drift 50-150 cm: 0.7% Drift 150-250 cm: 0.07%	Veldspuit met Hardi Twin Force luchtondersteuning + spuitdoppen ten minste DRD 50% + bijbehorende driftarme kantdop	DRT97,5	Veldspuit met Hardi Twin Force luchtondersteuning in combinatie met spuitdoppen van tenminste DRD 50% en bijbehorende driftarme kantdop bij een rijsnelheid van maximaal 8 km/u	Driving speed of 8 km/hour has to be explicitly mentioned in order to distinguish from the option with a driving speed of 12 km/hour since that option does not meet the degree of drift reduction for this technique/speed combination
Handheld equipment with standard nozzle	Drift 3.46% (NTA/NTP)	Handgedragen/handgetrokken spuitboom + spuitdoppen ten minste druppelgrootte M met tophoek van maximaal 90° +	DRT75	Handgedragen/handgetrokken spuitboom in combinatie met spuitdoppen van tenminste druppelgrootte M met een tophoek	This specific spraying technique is often used in specific regions (i.e. on small parcels in the

		sputdophoogte maximaal 40 cm		van maximaal 90 graden bij een sputdophoogte van maximaal 40 cm	Boskoop region) for the cultivation of forest trees and hedging plants. If this specific technique is proposed for other types of cultivation then the applicant should demonstrate that this is a feasible option in practice.
Handheld equipment with standard nozzle and shielded spray or 50% reducing nozzle	Drift 1.15% (NTA/NTP)	Handgedragen/handgetrokken afgeschermdde spuitboom + spuitdoppen ten minste druppelgrootte M met tophoek van maximaal 90° + sputdophoogte maximaal 40 cm	DRT75	Handgedragen/handgetrokken afgeschermdde spuitboom in combinatie met spuitdoppen van tenminste druppelgrootte M met een tophoek van maximaal 90 graden bij een sputdophoogte van maximaal 40 cm	This specific spraying technique is often used in specific regions (i.e. on small parcels in the Boskoop region) for the cultivation of forest trees and hedging plants. If this specific technique is proposed for other types of cultivation then the applicant should demonstrate that this is a feasible option in practice.