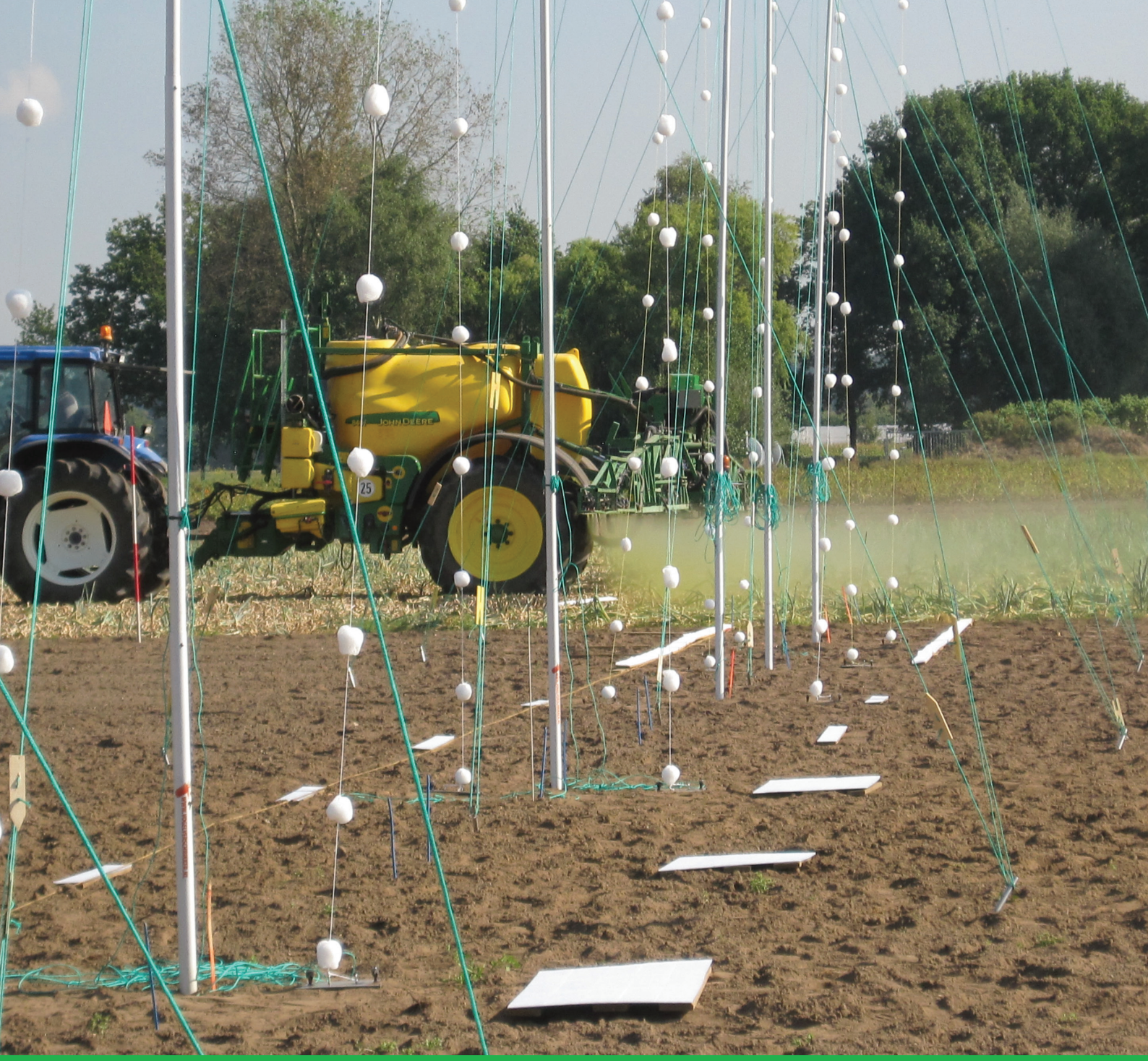

Potential exposure of residents to spray drift within 50 m of a sprayed field

J.C. van de Zande, H. Stallinga, P. van Velde & J.M.G.P. Michielsen

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Potential exposure residents to spray drift within 50 m of a sprayed field

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This study was carried out by the Wageningen Research Foundation (WR) and was commissioned and financed by RIVM within the Research project Onderzoek Bestrijdingsmiddelen Omwonenden (project number 3710434304; OBO-Deliverable 036).

WR is part of Wageningen University & Research, the collaboration of Wageningen University and Wageningen Research Foundation.

Wageningen, August 2018

Report WPR-756

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Spray drift is determined for a boom sprayer equipped with standard and drift reducing venturi flat fan nozzles operated at 0.50 m boom height and applying 300 L ha^{-1}. Experiments were performed spraying a bare soil surface and a developed 50 cm high onion crop. Spray drift is measured as spray deposition at ground level and as airborne spray drift up to 50 m downwind of the treated area using passive collectors and active air sampling collectors up to 10 m height. Spray drift deposition is shown to be higher for the airborne sampled spray drift than for the ground deposition at the same distance. Actively sampled airborne spray drift results in higher values of spray drift than those for passive collectors. Airborne spray drift averaged over 0-2 m height is for the passive collectors up to 100 times higher and for the actively sampled collectors more than 150 times higher than ground deposition at 50 m distance from the treated area.

Key words: Spray drift, airborne drift, spray technique, residents, risk assessment, exposure

Report WPR-756

Photo cover: Jan van de Zande, spray drift measurement (IMG_7696.JPG)

Contents

Preface

The research presented in this paper was performed within the Research on exposure of residents to pesticides (OBO-project; Deliverable 036) and financed by the Dutch ministries of Infrastructure and the Environment and of Economic Affairs. The research is carried out in a research consortium, consisting of: Institute for Risk Assessment Sciences (IRAS) of Utrecht University, TNO, University Medical Centre Groningen (UMCG), Radboud University Medical Centre Nijmegen, Wageningen University & Research, Centre for Agricultural Environment (CLM), Schuttelaar & Partners and is coordinated by the National Institute for Health and the Environment (RIVM). The spray drift measurements were performed in cooperation with WageningenUR Unifarm in Wageningen. The measurements were very laborious and time consuming; many thanks to all the students, colleagues and people of Unifarm who assisted with the measurements in the field when the wind was blowing from the 'good' direction.

Wageningen, April 2018

Samenvatting

In Nederland wonen ongeveer 90000 mensen binnen een afstand van 50 m van percelen met bloembollen of fruitteelt. Het is onduidelijk hoeveel van deze mensen blootgesteld worden aan gewasbeschermingsmiddelen die in deze teelten gebruikt worden en welk gezondheidsrisico zij lopen. Het onderzoeksproject "Onderzoek Bestrijdingsmiddelen Omwonenden" is daarom opgezet om de blootstelling van omwonenden rond percelen met bloembollen te inventariseren (OBO). OBO wordt uitgevoerd door een consortium van onderzoeksinstituten onder coördinatie van het RIVM. Er worden metingen gedaan om de blootstellingsroutes van het veld naar de omwonenden te kwantificeren: spuitdrift tijdens de toediening, verdamping vanaf het bespoten gewas na de toediening, het transport naar de huizen van de omwonenden, de depositie in en om de woningen en wat opgenomen wordt door de omwonenden door middel van urinemonsters. In het consortium doet Wageningen Plant Research onderzoek naar de blootstellingsroute spuitdrift tijdens de toediening van gewasbeschermingsmiddelen. De drift depositie benedenwinds van een bespoten perceel en de drift in de lucht wordt gekwantificeerd. Omdat onvoldoende bekend is wat deze bijdrage tot op grotere afstand (50 m) is van het behandelde perceel, is een serie veldexperimenten opgezet. De resultaten van deze drift metingen kunnen ook gebruikt worden voor de validatie van het driftmodel IDEFICS.

In deze rapportage worden de opzet en resultaten beschreven van de drift bij bespuiting van een kale grond en een gewas uien (vergelijkbaar met bloembollen). De gebruikte spuittechnieken zijn een standaard veldspuit met daarop standaard spleetdoppen en 90% driftreducerende venturi spleetdoppen die onder praktische omstandigheden een spuitvolume van 300 L ha^{-1} uitbrachten. De drift werd benedenwinds tot op 50 m van het bespoten perceel gemeten met collectoren die op de grond geplaatst waren en masten met passieve collectoren (10 m hoog) en masten met actieve aanzuiging (6 m hoog). De metingen werden uitgevoerd met een fluorescerende tracer.

De resultaten van de driftmetingen laten zien dat de drift naar de lucht zowel voor de standaard als de 90% driftreducerende spuittechniek hoger is dan de driftdepositie op de grond op dezelfde afstand van het bespoten perceel. Zowel driftdepositie op de grond als drift naar de lucht is hoger wanneer een gewas (50 cm gewashoogte) bespoten wordt dan wanneer een kale grond bespoten wordt. Met een standaard veldspuit, een spuitboomhoogte van 50 cm en uitgerust met standaard spleetdoppen is de driftdepositie op de grond en de drift naar de lucht tot op 50 m afstand van het bespoten perceel boven de drempelwaarde van detectie. Voor de veldspuit uitgerust met 90% driftreducerende spuitdoppen is de driftdepositie vanaf 25 m van het bespoten perceel onder de drempelwaarde maar is de drift naar de lucht tot op 50 m van het bespoten perceel (en tot 10 m hoog) boven de drempelwaarde (voor de passieve drift collectoren). De bemonstering van de drift naar de lucht is bij gebruik van de systemen met actieve aanzuiging 3 tot 13 keer hoger dan wanneer de drift naar de lucht met passieve (bolvormige) collectoren gemeten wordt. De drift naar de lucht gemiddeld over 0-2 m hoogte is bij de passieve collectoren op 5 m afstand van het bespoten perceel tot 7 keer hoger en op 50 m tot 100 keer hoger dan de driftdepositie op de grond op dezelfde afstand. Voor de collectoren met actieve aanzuiging is de luchtdrift over 0-2 m hoogte op 5 m afstand tot 28 keer hoger dan de driftdepositie op de grond en op 50 m afstand van het bespoten perceel meer dan 150 keer hoger.

In deze studie zijn driftmetingen tot op 50 m van het bespoten perceel uitgevoerd. De resultaten van de driftmetingen laten zien dat de drift naar de lucht hoger is dan de driftdepositie op de grond op dezelfde afstand vanaf het bespoten perceel en dat daarom de luchtdrift/gronddepositie verhouding van de drift depositie in deze studie ook hoger is dan bepaald in eerdere studies.

Summary

In the Netherlands approximately 90,000 people reside within 50 m of fields with flower bulb or fruit cultivation. It is unclear how many of these people are exposed to pesticides or whether their health is at risk. Therefore, the research project "Onderzoek Bestrijdingsmiddelen Omwonenden" (OBO) was set up to assess the exposure of residents to pesticides next to flower bulbs fields. The research is done by a consortium of research institutes and coordinated by RIVM. Measurements are done to quantify the different exposure routes from the field (spray drift and vapour drift during application, volatilization from a treated crop after application) to the residents' houses and what is taken up by participant residents as measured in urine samples. In this research consortium Wageningen Plant Research quantifies spray drift during application resulting in spray drift deposition on soil surface downwind of the treated area as well as airborne spray drift. As additional measurements are necessary to quantify the real situation a series of spray drift field measurements was setup. Results of these measurements can also be used to validate the spray drift model IDEFICS.

In this report the exposure route spray drift is quantified for a spray treatment on a bare soil surface and the full growth situation of an onion crop (mimicking a flower bulb crop). The spray techniques used were a standard boom sprayer equipped with standard flat fan nozzles and with venturi 90% drift reducing flat fan nozzles and were operated under practical spray conditions applying 300 L ha^{-1} (field and weather). Spray drift was measured up to 50 m from the treated field both as ground deposit as airborne spray drift using active air sampling collectors and passive collectors up to 10 m height. For practical reasons the measurements are performed using a fluorescent tracer.

Results of these spray drift measurements show that when spraying a bare soil surface and an onion crop with a standard flat fan nozzle and a 90% drift reducing venturi flat fan nozzle, airborne spray drift is higher than drift deposits on ground collectors at the same distance from the treated field. Spray drift ground deposits as well as airborne spray drift is higher when spraying a developed crop (0.50 m crop height) than when spraying a bare soil surface. With a conventional boom sprayer equipped with standard flat fan nozzles operating at a spray boom height of 0.50 m above ground, both spray drift deposits at the ground and airborne spray drift are above the detection limit, up to 50 m distance and 10 m height. For the 90% drift reducing venturi flat fan nozzle the ground deposits of spray drift are lower than the detection limit at 25 m downwind and beyond, whereas the airborne spray drift at 50 m still is above the detection limit for the passive airborne collectors. Airborne spray drift for the active sampling devices is about 3 to 13 times higher than that of the passive airborne drift collectors. At 5 m from the treated field, the airborne spray drift averaged over 0-2 m height measured using passive sampling is up to 7 times higher than drift deposits at ground collectors. At 50 m distance passive airborne drift is up to 100 times higher than that on ground collectors. The ratio of airborne drift to ground deposits for active airborne samplers is even higher: averaged over 0-2 m height at 5 m distance this ratio is up to 28, while at 50 m distance from the treated field the ratio is more than 150.

In this study, airborne spray drift measurements are performed up to 50 m from the treated area and the results show that airborne spray drift is much higher than ground deposits at distances further downwind from the treated area. Therefore the airborne/ground spray drift deposition ratio measured in this study is also much higher than determined in earlier studies.

1 Introduction

In the Netherlands approximately 90,000 people reside within 50 m of flower bulb or fruit cultivation. It is unclear how many of these people are exposed to pesticides or whether their health is at risk. Therefore, the research project "Onderzoek Bestrijdingsmiddelen Omwonenden" was set up to assess the exposure of residents to pesticides next to flower bulbs fields (Bogers *et al.*, 2014; OBO, 2017). The research is done by a consortium of research institutes coordinated by RIVM. Measurements are done to quantify the different exposure routes from the field (spray drift and vapour drift during application, volatilization from a treated crop after application) to the residents' houses and what is taken up by participant residents as measured in urine samples (Gooijer *et al.*, 2019). In this research consortium Wageningen Plant Research quantifies spray drift during application resulting in spray drift deposition on soil surface downwind of the treated area as well as airborne spray drift.

Important sources for the exposure routes discriminated are spray drift during application and volatilization from the treated field (Figure 1.1). Spray drift is defined as the quantity of plant protection product that is carried out of the sprayed (treated) area by the action of air currents during the application process (ISO22866). From earlier spray drift experiments the ground deposition of spray drift is known for standard and drift reducing techniques up to 25 m distance of the treated field (Zande *et al.*, 2012). Airborne spray drift was measured only as a vertical profile at one distance (5 m) from the treated field. Based on spray drift measurements of multiple swath applications some assumptions can be made on airborne distribution of spray drift at larger distances (Zande *et al.*, 2017). However, additional measurements are necessary to quantify the real situation and therefore a series of field measurements of spray drift up to 50 m distance was setup. Results of these measurements can also be used to validate the spray drift model IDEFICS (Holterman *et al.*, 1997).

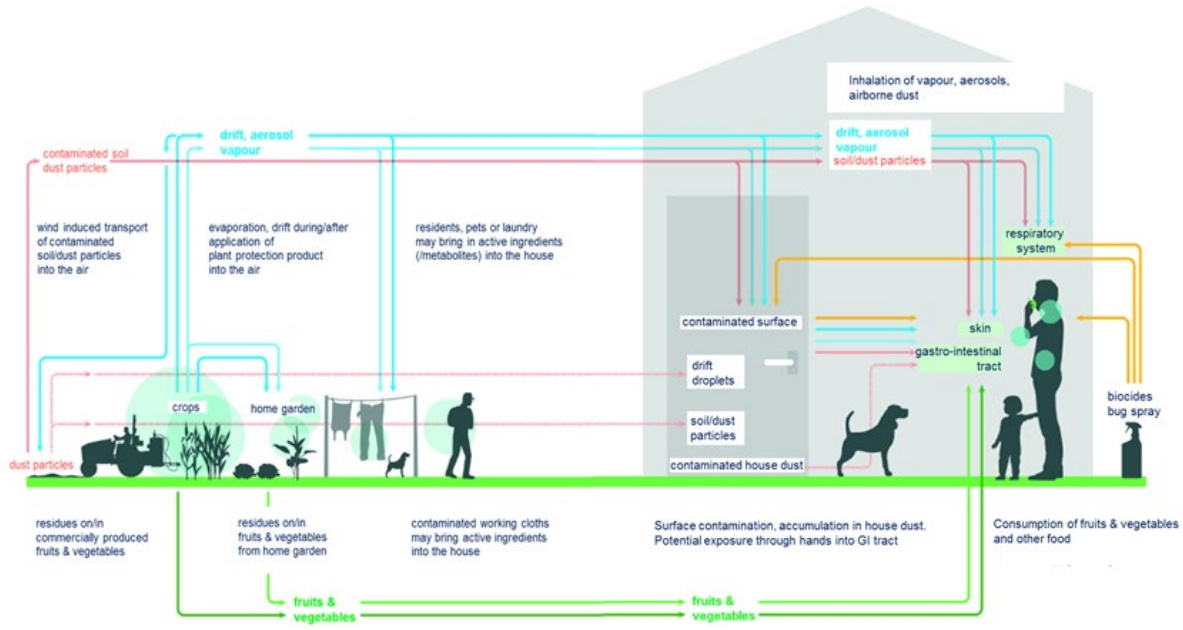

Figure 1.1 *Possible routes leading to exposure of residents to plant protection products (Gezondheidsraad, 2014). This report will focus on exposure via spray drift up to 50 m from the treated field (spray drops and aerosol - blue arrows)*

In this report the exposure route spray drift is quantified for a sprayed field in the bare soil surface and the full growth situation of an onion crop (mimicking a flower bulb crop) during field measurements. The spray techniques used were a standard boom sprayer equipped with standard flat fan nozzles and with venturi 90% drift reducing flat fan nozzles and were operated under practical spray conditions applying 300 L ha^{-1} (field and weather). Spray drift was measured up to 50 m from the treated field both as ground deposit as airborne spray drift. For practical reasons the measurements were performed using a fluorescent tracer.

The measurement methodology is described (chapter 2) and the results (chapter 3) are discriminated in spray drift as ground deposition and as airborne spray drift up to 10 m height. Outcomes are discussed in chapter 4.

2 Materials and methods

To quantify potential exposure of residents to spray drift downwind of sprayed flower bulb fields, spray drift measurements were performed under practical conditions spraying a bare soil surface and an onion crop (mimicking flower bulbs). Measurements in the bare soil surface situation were performed in November 2015 and April 2016 and in the cropped situation in August and September 2016 (following ISO22866, 2005; CIW, 2003). Spray drift measurements were performed at the experimental fields of WageningenUR Unifarm in Wageningen.

2.1 Setup and description of used spray techniques

In a series of field experiments in 2015 and 2016, spray drift was measured spraying a field using a John Deere trailed boom sprayer (John Deere, Horst The Netherlands)). Working width of the boom sprayer was 27 m; nozzle spacing was 50 cm at the spray boom. Spray applications were performed at a boom height of 50 cm above a bare soil surface and a developed onion crop (50 cm crop height) using two nozzle types:

1. Standard flat fan nozzles TeeJet XR 11004 at 3 bar spray pressure (reference)
2. 90% drift reducing venturi flat fan nozzles Agrotop XLTD11004 (DRN90; TCT, 2017), in combination with an TDOC04 end nozzle, at 3 bar spray pressure

Forward speed of the sprayer was 6.5 km h^{-1}; application rate was approximately 300 L ha^{-1}.
A summary of the sprayer settings during the spray drift experiment is presented in Table 2.1.

Table 2.1 *Summary of sprayer settings during the spray drift experiments*

sprayer	John Deere	
working width	27 m	
spray nozzles	TeeJet	Agrotop
	XR11004	XLTD11004
nozzle type	Standard flat fan	Venturi flat fan
end nozzle	*	TDOC04
pressure [bar]	3	3
n-nozzles at spray boom	54	54
nozzle flow rate [l/min]	1,67	1,74
sprayer forward speed [km/h]		
bare soil	6,4	6,4
onion crop	6,5	6,6
spray volume [l/ha]		
bare soil	312	324
onion crop	307	317

Forward speed
To check the actual forward speed, the time is recorded for the sprayer to travel between two poles that were positioned 20 m apart (Figure 2.2). Spray drift deposits were measured at the area in between these poles. In the area upwind of the sprayed track and parallel to the downwind positioned poles, two additional poles were positioned in order to have no parallax errors in the distance travelled of the tractor-sprayer combination. The time is started when the spray boom is passing the first line in between the poles (see red-white pole on the left of the collector arrays in Figure 2.2), the person in charge of measuring the time over 20 m runs to the next set of poles and stops the stopwatch the moment the spray boom passes the set of poles. The measured time is recorded.

2.2 Measurements description and data analysis

2.2.1 Spray drift measurements

Spray drift experiments spraying the bare soil surface were done at 4 and 5 November 2015 and at 20 and 21 April 2016. The spray drift measurements with the onion crop were done at 17 and 18 August and 20 and 23 September 2016. The treated bare soil and onion crop fields were at the WageningenUR experimental farm (Unifarm) in Wageningen (field locations: bare 2015 - 51°59'39.7"N, 5°39'11.3"E; bare and onion 2016 - 51°59'15.1"N, 5°39'15.4"E). A total of 10 measurements (6 with XR11004 and 4 with XLTD11004 nozzle types) were done at the bare soil and 16 measurements (both XR11004 and XLTD11004 nozzle types 8 measurements) in the developed onion crop. In one measurement of the XR11004 nozzle type only spray swath 2 was sprayed (Figure 2.1). This measurement was excluded from the description of the results.

Description of crop
To mimic a flower bulb crop an onion crop was used as both crop types are grown on beds, are more easy to grow, are cheaper in plant material and have a similar growth pattern and leaf structure. The onion crop was planted on beds of 1.50 m with a net bed width of 1.20 m. On the net bed surface 5 rows of onions were sown (row spacing 20 cm). Below the centre of the sprayer was one planted bed and the track was positioned in 2 times a half bed of not planted bare soil (Figure 2.2; so 3 m under the sprayer with on both sides 8 beds under the spray boom; in total 1+16 beds under a working width of 27 m). During the experiments, the onion crop was a standing crop (with crop height 50 cm).
For the experiments on the bare soil surface the treated area was a large bare experimental field in which an area of two swaths (total width 54 m) and 150 m long was laid perpendicular to the expected wind direction for the day of the measurements (Figure 2.3).

Position of last nozzle
When spraying the onion crop the last downwind nozzle was positioned just above the last row of onions on the bed/edge of the bed on which the onions were sown. From this last nozzle position the distances for the ground collectors and the position of the airborne spray drift pole were determined (Figure 2.1).

The setup of the collectors to measure downwind spray drift is presented in Figure 2.3.

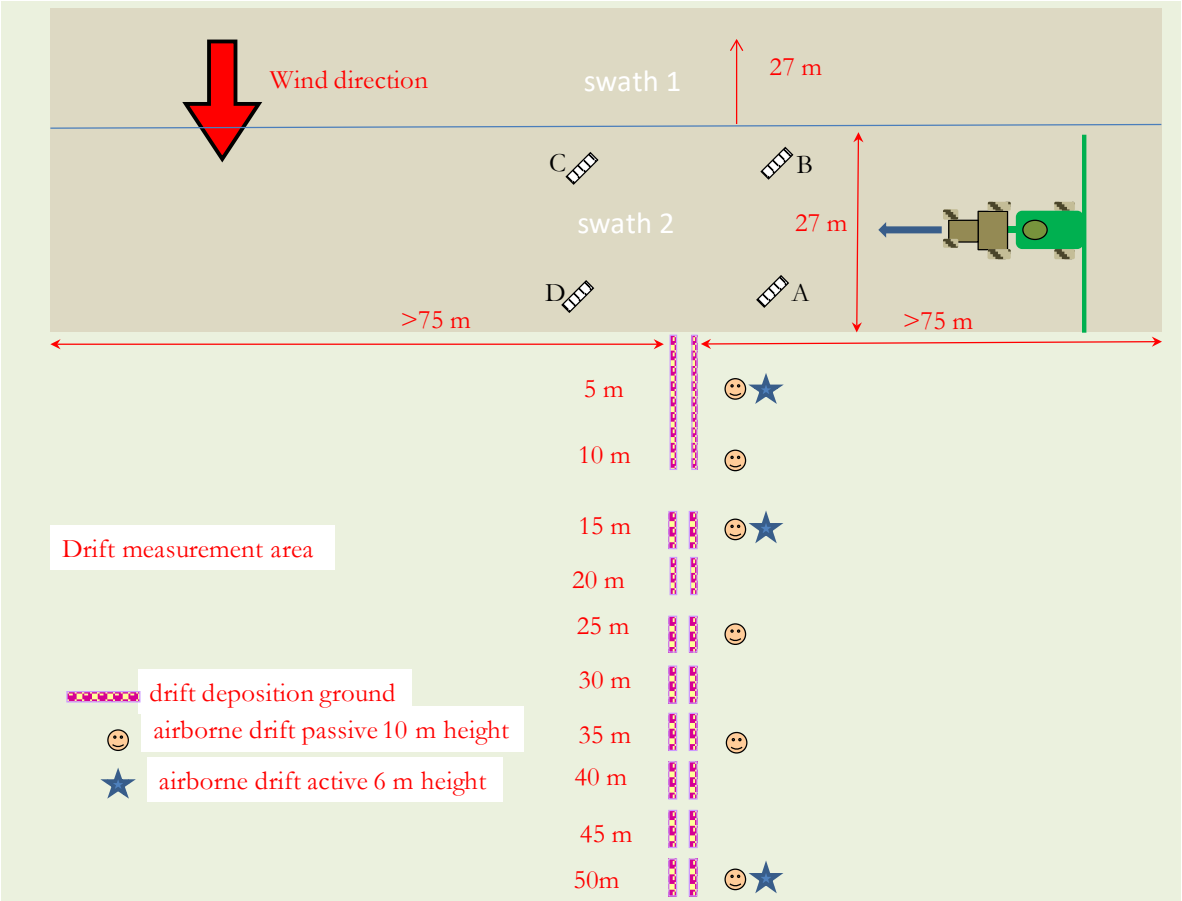

Figure 2.1 *Schematic presentation of the spray drift collector setup in the downwind drift measurement area and the treated area (swath 1 + swath 2 and on top of crop canopy (A, B, C, D) to check applied spray volume) at the experimental field*

Figure 2.2 *Overview of spray track in between bed structure of onion crop (left) and position of poles (red-white) for forward speed check of the sprayer*

2.2.2 Ground deposition of spray drift

Downwind of the treated area (bare soil, onion crop) a bare soil area extended for approximately 70 m. In this strip of land (Figure 2.1) a double line of ground collectors was positioned at 2 m spacing between the lines. Spray drift collectors (Technofil TF 290; 10x50 cm and Technofil TF 100 10x100 cm) were placed perpendicular to the crop rows and travel direction of the sprayer to quantify spray drift deposits at ground level at positions:

- At 0.5-10 m in a continuous line of collectors of 0.50 m length;
- At 15-16 m, 20-21 m, 25-26 m, 30-31 m, 35-36 m, 40-41 m, 45-46 m and 49-50 m at collectors of 1 m length. At distances 25-26 m to 49-50 m in one row the single collector was replaced by a plate containing 5 collectors to increase spray drift deposit collection area.

Distances were measured from the last nozzle position in the sprayed field.

To check the applied spray volume several collectors (Technofil TF 290; 10x100 cm) were positioned in the sprayed area at leaf canopy height on both sides of the sprayer underneath the spray boom. These collector sets were identified as A,B,C,D and positioned below the centre of each boom half (on top of the 5th bed of the 8 beds on each side) and 10 m before and 10 m after the spray drift collector lines (Figure 2.1).

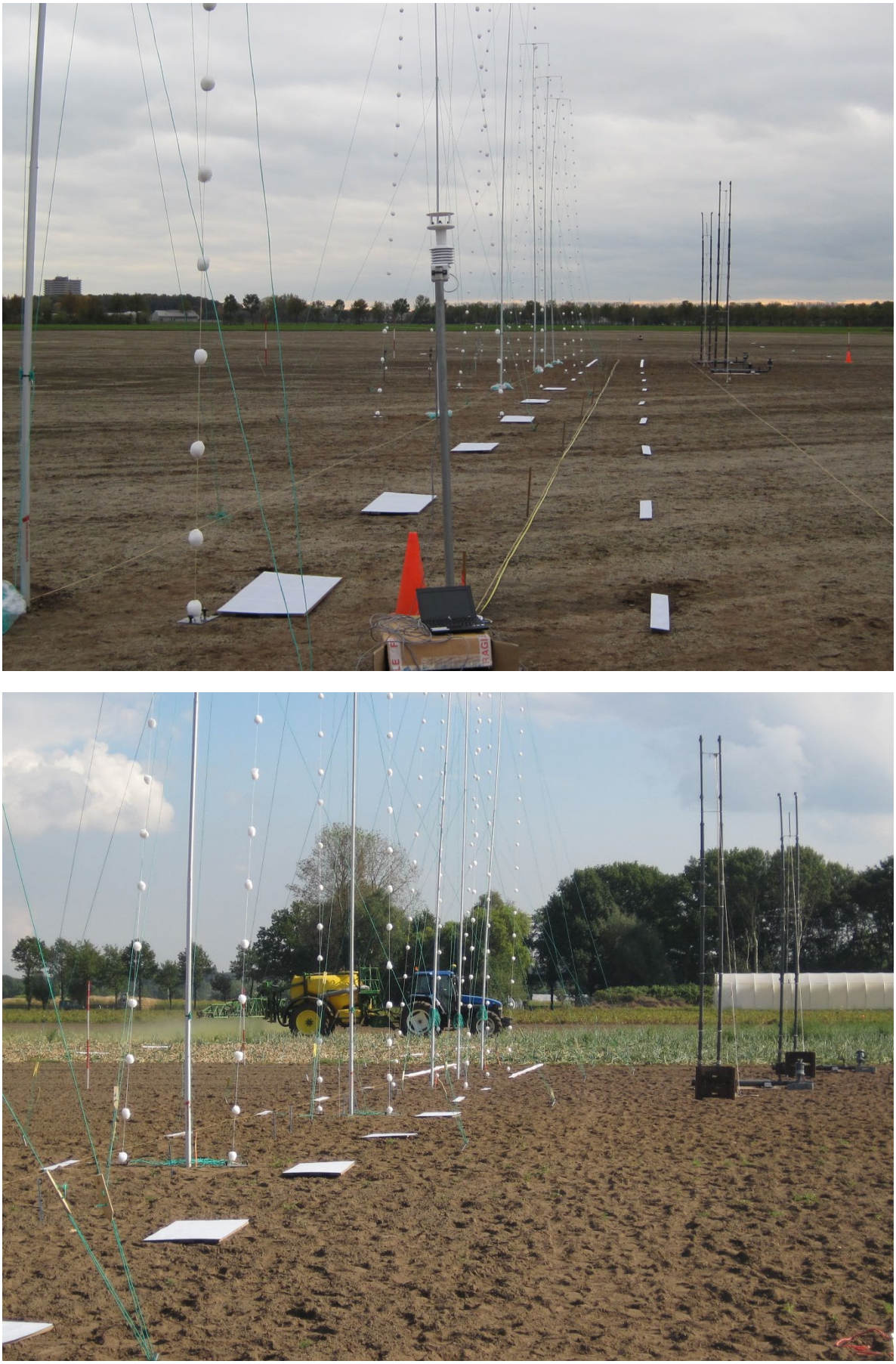

Figure 2.3 *Spray drift measurement setup during experiments on the bare soil surface (top) and with the onion crop (bottom)*

2.2.3 Airborne spray drift

Airborne spray drift was measured with passive collectors and collectors in an active air suction device.
Vertical poles with passive collectors (Siebauer Abtrifftkollektoren art. nr. 00131; Figure 2.4 left) were placed at 5 m, 10 m, 15 m, 25 m, 35 m and 50 m from the last nozzle in double lines with collectors at 0.50 m spacing up to 10 m height. The collectors were attached to a nylon wire of 5 mm diameter. Spray drift deposition in between the passive collectors was sampled from the nylon lines as well. Samples were taken at 0.25 m, 0.75 m and up to 9.75 m height cutting the centre 25 cm of the lines.

The active sampling of airborne spray drift involved a technique developed at WPR developed (Stallinga *et al.*, 2008). Masts were positioned at 5 m, 15 m and 50 m downwind with a double row of suction heads (diameter 32 mm 3 m s^{-1} air suction speed) at 0.37 m, 0.75 m, 1 m, 2 m, 3 m, 4 m, 5 m and 6 m heights. Filters used in the suction heads were Schleicher & Schuell nr. 2282 (48 mm diam.; thickness 1.45 mm). The filtration time of the filters used was 40 s (Herzberg method) and the base weight was 450 g m^{-2}. The suction heads were attached to two PVC pipes (diameter 63 mm at lower 4 m height and 40 mm at the top 2 m). The distance between the pipes was 33 cm. The two pipes with suction heads was attached to a bottom pipe (diam. 110 mm) which was coupled to a vacuum cleaner electromotor (Amatec ET 1350 forced cooling; under pressure 2400 mm/WK; air displacement 59 L s^{-1}). Just in front of the motor a T-joint valve is fit in the pipe to allow entry of free air. Adjustment of this valve allows to control the air speed through the suction heads. The construction of the pipes and motor is attached to a ground plate in such a way that the pipes could rotate at the ground plate. In this way the pipes could be lowered easily to facilitate exchanging the filters.
Suction heads were made of PVC coupling devices (Figure 2.4 right) with the filter paper fixed between head and pipe. The inside diameter of the suction head is 34 mm and the effective suction head surface diameter (and of the filter paper) is 32 mm.
The air speed through the filters in the suction heads was intended to be adjusted to approximately 3 m s^{-1}. The air speed through the suction heads were measured using a mini vane anemometer and turned out to deviate from the intended equal air speed. Recorded air speed of the suction heads is for all the filter positions at the 6 m high masts presented in Table 2.2. Recorded differences of air speeds through the filters between the masts can be dealt with in future data analysis; e.g. to present the data normalized for equal air speeds. This is not done in this report.

Table 2.2 *Air speed (m s^{-1}) through the filters in the suction heads of the three masts used for measuring airborne spray drift with active samplers*

Position	Pipe	0.37	0.75	1	2	3	4	5	6	Avg pipe	Avg mast
5 m	Left	3.27	3.19	3.45	3.22	3.26	3.08	3.23	3.23	3.24	
	Right	3.47	3.10	3.20	3.06	2.97	3.11	3.04	3.11	3.13	3.19
10 m	Left	3.91	3.69	3.59	3.26	3.59	3.39	3.62	3.35	3.55	
	Right	3.86	3.57	3.62	3.47	3.58	3.53	3.63	3.57	3.60	3.60
15 m	Left	3.74	3.73	3.63	3.46	3.55	3.64	3.57	3.68	3.63	
	Right	3.75	3.67	3.53	3.65	3.56	3.42	3.48	3.34	3.55	3.55

On average, air speed through the filters in the suction heads was 3.19 m s^{-1} for the mast at 5 m, 3.60 m s^{-1} for the mast at 15 m and 3.55 m s^{-1} for the mast at 50 m.

Figure 2.4 *Passive collector (left) and active collector in suction head (right) for measuring airborne spray drift*

2.2.4 Analyses

The spray liquid was tap water with added fluorescent dye (Brilliant Sulfo Flavine; BSF, Chroma 1F 561, CI 56205, 3-5 g L^{-1}) and a non-ionic surfactant (Agral Gold; 0.075 mL L^{-1}). After spraying the collectors were put in plastic bags, labelled, collected and transported to the lab for further analysis of the deposited amount of BSF. Every measuring day also samples were taken of the tank concentration of the sprayed tank mix by taking a sample from below a spraying nozzle. In the laboratory the collectors were taken from the plastic bags and put in jars to which a fixed amount of demineralised water was added (1000 mL for ground collectors TF-290; 500 mL for TF-100 and 50 mL for passive airborne collectors). The jar was shaken for 15 minutes to wash the BSF from the collector and the extracted solution was poured into tubes (10 mL) to be analysed with a fluorimeter (Perkin Elmer LS 55; λ_{ex}=450 nm; λ_{em}=500 nm) to determine the BSF concentration. The concentration of BSF in the tank samples was determined using the fluorimeter as well. The background fluorescent signal of the collectors was determined by analysing a set of blank collectors.
The recovery of the collectors for the used BSF batch was analysed in a separate experiment. Recovery was more than 99% of the spiked amounts of BSF.
The degradation in sunlight of the BSF batch when deposited on the collectors was determined in a separate experiment, showing that more than 95% of BSF could be recovered after 30 minutes exposure to sunlight (Stallinga *et al.*, 2012). As collection time of the collectors in the field was on average within 10-15 minutes; correction for sunlight degradation was not necessary.

2.2.5 Calculations

2.2.5.1 Percentage spray drift

From the measured concentration of BSF from the washed collectors the amount of spray volume per unit area was calculated. The percentage of spray drift was calculated by expressing the spray drift deposition per unit area as a percentage of the applied spray volume in the field per unit area.
The amount of spray deposit per unit area (µl cm^{-2}) can be calculated from the reading of the fluorimeter, the calibration factor, the collector surface area, the BSF concentration in the sprayed liquid, the background signal (collector + dilution liquid) and the volume of dilution liquid (see equation 1).

$$D_{monster} = \frac{(F_{monster} - F_{demi} - F_{blanco}) \times f_{ijk} \times V_{spoel}}{C_{tm} \times A_{monster}} \quad [1]$$

With:
D = spray deposition on collector µl cm^{-2};
F = fluorescence value;
$F_{monster}$ = fluorescence value of collector;
F_{demi} = fluorescence value of deionised water;

F_{blanco}= fluorescence value of blank collector;
f_{ijk} = calibration factor;
V_{spoel} = extraction volume in L;
C_{tm}= tracer concentration in sprayed liquid (tank concentration) in $g.L^{-1}$;
$A_{monster}$ = collector surface area in cm^2.
Usually, spray drift deposition is expressed as a percentage of applied spray volume following:

$$P = \frac{D_m}{Q/100} \times 100\% \qquad [2]$$

With:
P = percentage of spray drift of applied spray volume;
D_m = spray deposition on collector in $\mu l\ cm^{-2}$;
Q = spray volume in L/ha.

2.2.5.2 Threshold value

To determine the background fluorescence several blank collectors were analysed separately. These measurements gave an average background fluorescence of the blank collectors and its standard deviation. In the calculation of the spray drift deposition (equation 1) the average value of the background fluorescence is used. In the performed experiments very low spray drift deposits were measured with values close to and even below the average background fluorescence of the blank collectors. Calculated spray drift deposition can therefore be even below 0%. The threshold value used in this report is defined by the average fluorescence value of the blanks plus two times its standard deviation. This threshold value is expressed as % spray drift deposition according to equations 1 and 2. The threshold value is dependent of the measured spray technique (applied spray volume), used extraction volume, collection surface area of the collector and the tank concentration and can therefore differ for each spray drift measurement.
In the annexes the calculated spray drift deposition values are given also when they are below the threshold value. Values below the threshold value are presented in italics. In this report such values are presented by the phrase '< threshold value' e.g. '<0.006'.

2.3 Weather conditions

During the spray drift experiments the weather conditions were recorded. Air temperature was measured at 0.5 and 4 m height (Pt100 device), the relative air humidity at 1.5 m height (% RH, Rhotronic), the wind direction (0^0 = perpendicular to the crop rows) at 10 m height and the wind speed (using cup anemometers) at 0.5 m, 2 m, 3 m, 4 m and 10 m height. These weather conditions were recorded at a time interval of 5 s. The weather station was positioned at 50 m downwind of the last nozzle. Every time the sprayer passed the collector lines the time at the data logger display was recorded. Afterwards, from the collected weather data the data of 15 s before to 15 s after the time of passage were averaged (Annex 1). Next to the weather station also an ultrasonic anemometer (Metpak) was positioned at 2 m height. During the measurements with the bare soil surface an additional Metpak was positioned at 2 m height at 50 m upwind from the last nozzle and in line with the spray drift collector arrays.
Average weather conditions during the spray drift experiments are presented in Table 2.3.

Table 2.3 *Average weather conditions for the different spray techniques during the spray drift experiments*

Nozzle	Crop situation	n-rep	Temperature [^{0}C]	% RH	Wind angle to rect to driving direction abs	Wind speed [m s^{-1}] at height [m]				
					rect=0^0	0.5	2	3	4	10
XR11004	bare soil	5	15	59	31	1.9	2.2	2.5	2.6	4.7
	onion	8	20	53	21	2.3	2.5	2.7	3.1	4.0
XLTD11004	bare soil	4	15	68	26	2.0	2.4	2.7	2.8	3.2
	onion	8	21	51	21	2.5	2.6	2.8	3.6	4.7
average	bare soil		15	63	29	2.0	2.3	2.6	2.7	4.0
	onion		20	52	21	2.4	2.5	2.7	3.3	4.4

During some of the measurements the temperature sensor and the relative humidity sensor were not properly functioning. Average values for these parameters do not make sense and are therefore not included in Table 2.2. Instead, the recorded T and RH values of the Metpak ultrasonic anemometers are presented. During the spray drift experiments with the bare soil surface the average temperature was 15^0C, the average wind direction perpendicular to the driving direction was 29^o and the average wind speed at 2 m height was 2.3 m/s. During the spray drift experiments with the onion crop the average temperature was 20^0C, the average wind direction perpendicular to the driving direction was 21^o and the average wind speed at 2 m height was 2.5 m/s.

3 Results

The results of the measurements of the spray deposition on the ground and top of the crop canopy underneath the spray booms of the passing sprayer are presented in Annex 2. The results of the spray drift deposition at ground surface downwind of the sprayed area are presented in Annex 3 and results of the airborne spray drift are presented in Annex 4 for the passive collectors, in Annex 5 for the string collectors and in Annex 6 for the filters of the active sampling technique. During the experiment using the standard spray technique (XR11004) in the bare soil surface situation of repetition 6 only the downwind swath was sprayed. The results of this measurement are excluded from the presented results.

3.1 Spray deposition on top of crop canopy

The results of the spray deposition on top of the sprayed onion canopy or the ground when spraying the bare soil surface underneath the sprayer booms are presented in Annex 2. In Table 3.1 the results of the average spray deposition is presented for the different techniques in the different crop situations.

Table 3.1 *Mean spray deposition (% of sprayed volume per unit area) underneath the sprayer boom on top of crop canopy (spraying onion crop) or on ground (spraying bare soil surface) for a conventional sprayer equipped with standard nozzles (XR11004) and 90% drift reducing nozzles (XLTD11004; DRN90)*

Situation	Object	#1	#2	#3	#4	#5	#6	#7	#8	Average
Bare soil	XR11004	108	106	100	111	114				108
	XLTD11004	96	93	100	102					98
Onion	XR11004	131	127	110	88	95	91	82	104	104
	XLTD11004	120	120	124	148	103	102	98	104	115

Due to sprayer boom movements the spray deposition above crop canopy can deviate from the intended 100% spray deposition. On average 98%-115% of applied spray volume is recovered as applied in the treated area. An acceptable range of in-field spray deposition is 80-120%. The observed spray drift measurements are within this acceptable range except for some of the XR11004 measurements in onion (repetitions 1 and 2) and for the XLTD11004 in onion (repetitions 3 and 4). Forward speed of the sprayer and spraying pressure were constant and could not explain the observed deviations of the in-field spray deposits.

3.2 Spray drift deposition at ground surface downwind of the sprayed crop

The measured average spray drift deposition at ground surface downwind of the sprayed bare soil surface and onion field are presented in Figure 3.1 and in Table 3.2.
In Table 3.3 average spray drift deposition at the ground is calculated for the zones 1-5 m, 5-10 m, 10-15 m, 1-15 m, 15-25 m and 25-50 m from the last nozzle.

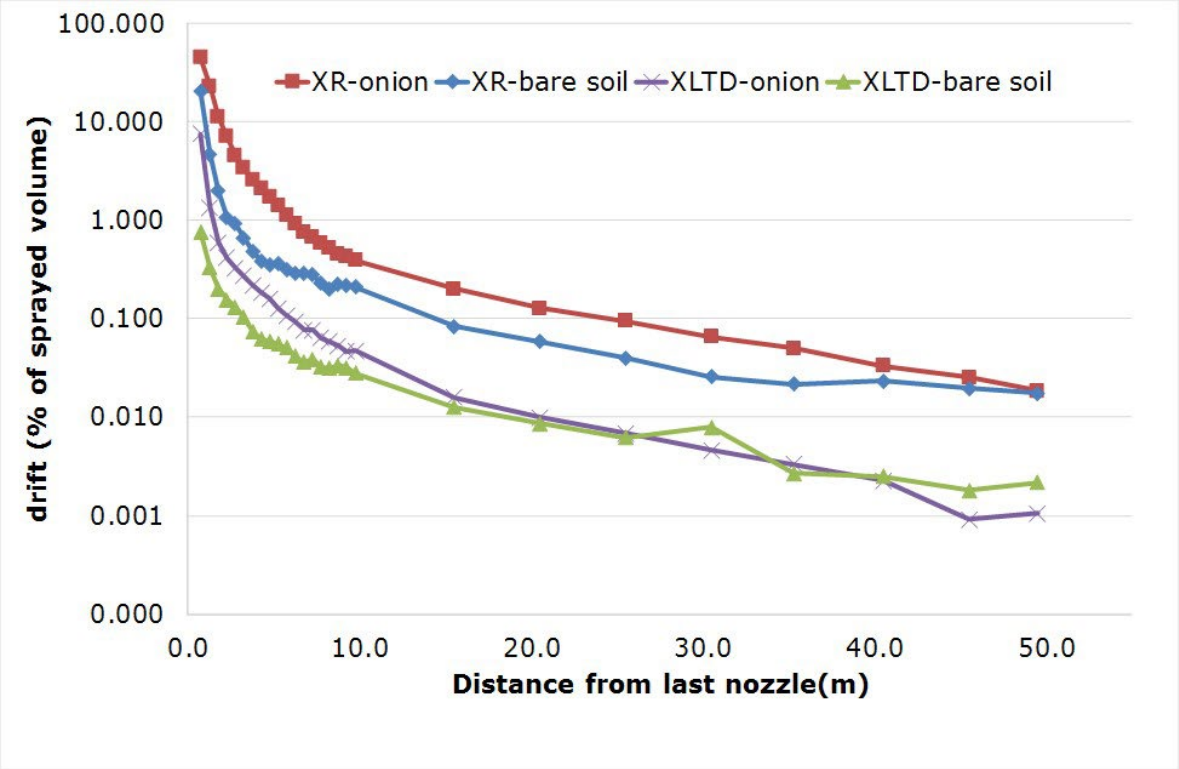

Figure 3.1 *Mean spray drift deposition (% of applied spray volume per unit area) at different distances from the last nozzle when spraying two swaths (2x27 m) of a bare soil surface and an onion crop using a conventional boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle type (XLTD11004; DRN90) and 50 cm spray boom height*

For both nozzle types Figure 3.1 indicates that spray drift deposition on the ground downwind of the treated area is higher for the sprayed onion crop than for the sprayed bare soil surface area. Spray drift deposition of the standard flat fan nozzle (XR11004) is always higher than that of the drift reducing venturi flat fan nozzle (XLTD11004; DRN90). Threshold value for the measurements spraying a bare soil surface is 0.005%. Both Figure 3.1 and Table 3.2 show that at 50 m distance from the last nozzle spray drift deposition for the XR11004 nozzle is still above the threshold value. For the XLTD11004 nozzle spray drift deposition at 30 m and beyond is below the threshold value of 0.005%. For the spray drift measurements spraying an onion crop the threshold value is around 0.01%. At 50 m distance from the last nozzle spray drift deposition for the XR11004 nozzle is still above the threshold value of 0.01% spraying an onion crop. For the XLTD11004 nozzle spray drift deposition from 20 m onward is below the threshold value of 0.01% spraying an onion crop.

Table 3.2 *Mean spray drift deposition (% of sprayed volume per unit area) at different distances from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

Distance to nozzle (m)	XR11004		XLTD11004	
	bare soil	onion	bare soil	onion
49-50	0.018	0.019	*<0.005*	*<0.010*
45-46	0.020	0.025	*<0.005*	*<0.010*
40-41	0.023	0.033	*<0.005*	*<0.010*
35-36	0.022	0.050	*<0.005*	*<0.010*
30-31	0.026	0.065	0.008	*<0.010*
25-26	0.040	0.094	0.006	*<0.010*
20-21	0.059	0.128	0.009	0.010
15-16	0.083	0.200	0.013	0.016
9½-10	0.212	0.393	0.028	0.048
9-9½	0.218	0.430	0.032	0.047
8½-9	0.227	0.461	0.033	0.053
8-8½	0.201	0.524	0.031	0.058
7½-8	0.230	0.582	0.032	0.064
7-7½	0.278	0.677	0.039	0.077
6½-7	0.290	0.758	0.036	0.077
6-6½	0.287	0.917	0.041	0.093
5½-6	0.314	1.116	0.051	0.108
5-5½	0.368	1.432	0.055	0.127
4½-5	0.356	1.715	0.060	0.160
4-4½	0.386	2.102	0.062	0.186
3½-4	0.484	2.552	0.075	0.219
3-3½	0.659	3.381	0.104	0.270
2½-3	0.919	4.545	0.132	0.329
2-2½	1.081	7.157	0.156	0.416
1½-2	1.982	11.224	0.203	0.592
1-1½	4.712	23.215	0.330	1.346
½-1 m	20.602	44.821	0.768	7.563

Table 3.3 *Mean spray drift deposition (% of sprayed volume per unit area) at different zones from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

Distance to nozzle (m)	XR11004		XLTD11004	
	bare soil	onion	bare soil	onion
1-5	1.322	6.986	0.140	0.440
5-10	0.263	0.729	0.038	0.075
10-15	0.147	0.297	0.020	0.032
1-15	0.699	3.336	0.080	0.226
15-25	0.061	0.141	0.009	0.011
25-50	0.025	0.048	*<0.005*	*<0.010*

When spraying an onion crop, spray drift deposition at different zones from the last nozzle is always higher than when spraying a bare soil surface (Table 3.3). This holds for both the XR11004 and the XLTD11004 nozzle type. At the zone 1-5 m from the last nozzle spray drift deposition of the boom sprayer equipped with XR11004 nozzles is 1.322% spraying a bare soil surface whereas it is 6.986% spraying an onion crop. The spray drift deposition of the XLTD11004 nozzles is at the 1-5 m zone 0.140% spraying a bare soil surface and 0.440% spraying an onion crop. The values in Table 3.3 show that spray drift deposition at the 1-5 m zone is about 3 to 5 times higher when spraying an onion crop compared to spraying a bare soil surface area. This holds for both nozzle types.

Spraying a bare soil surface area using a XR11004 nozzle on a boom sprayer results in spray drift deposition values at the zones 1-15 m, 15-25 m and 25-50 m from the last nozzle of resp. 0,699%, 0,061% and 0,025%. Using a XLTD11004 nozzle type instead results in spray deposition values at 1-15 m and 15-25 m from the last nozzle of resp. 0.080% and 0.009% whereas at the zone 25-50 m spray drift deposition is lower than 0.005%. Note that the average values at 25-50 m for the XLTD11004 experiments are below the corresponding thresholds.
Spraying an onion crop using a XR11004 nozzle on a boom sprayer results in spray drift deposition values at the zones 1-15 m, 15-25 m and 25-50 m from the last nozzle of resp. 3.336%, 0.141% and 0.048%. Using a XLTD11004 nozzle type instead spraying an onion crop results in spray deposition values at 1-15 m and 15-25 m from the last nozzle of resp. 0.226% and 0.011% whereas at the zone 25-50 m spray drift deposition is lower than 0.010%.
In some cases, spray drift deposits on single collectors were observed that were below the threshold value determined for the blank collectors (par 2.2.5.2). Consequently, the calculated spray drift deposition values would be below 0%. In order to know the occurrence of these low values of spray drift depositions the percentage of collectors above the threshold value is presented at different distances in Table 3.4.

Table 3.4 *Percentage of measurements above the threshold value at different distances from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

Distance to nozzle (m)	XR11004		XLTD11004	
	bare soil	onion	bare soil	onion
49-50	60	85	37	4
45-46	67	83	32	0
40-41	63	77	42	19
35-36	77	90	37	15
30-31	87	100	58	21
25-26	100	100	53	31

When spraying a bare soil surface area using a boom sprayer equipped with XR11004 nozzles spray drift deposition at 25-26 m from the last nozzle is for all measurements (100%) above the determined threshold value of the blank collectors (Table 3.4). However, using XLTD11004 nozzles instead 53% of measurements are above the threshold value at that distance. Further downwind, at 49-50 m from the last nozzle 60% of the measurements for the XR11004 nozzle and 37% of the measurements of the XLTD11004 nozzle are above the threshold value.
Similarly, when spraying an onion crop, at 25-26 m from the last nozzle all measurements are above the threshold for the XR11004 nozzle while this is 31% for the XLTD11004 nozzle. At 49-50 m distance from the last nozzle 85% of the spray drift deposition measurements of the XR11004 nozzle are above the threshold whereas this is only 4% for the XLTD11004 nozzle.

3.3 Airborne spray drift

3.3.1 Passive measurements with spherical collectors

Average airborne spray drift measured with passive collectors when spraying a bare soil surface area and an onion crop using a boom sprayer equipped with standard nozzles (XR11004) and 90% drift reducing nozzles (XLTD11004; DRN90) are for different distances presented in Figure 3.2, Table 3.5.1 (XR11004) and Table 3.5.2 (XLTD11004). In Figure 3.3 airborne spray drift at 25 m (top) and 50 m (bottom) from the last nozzle are presented. The results of the airborne spray drift measured at different heights is further presented in Table 3.6.

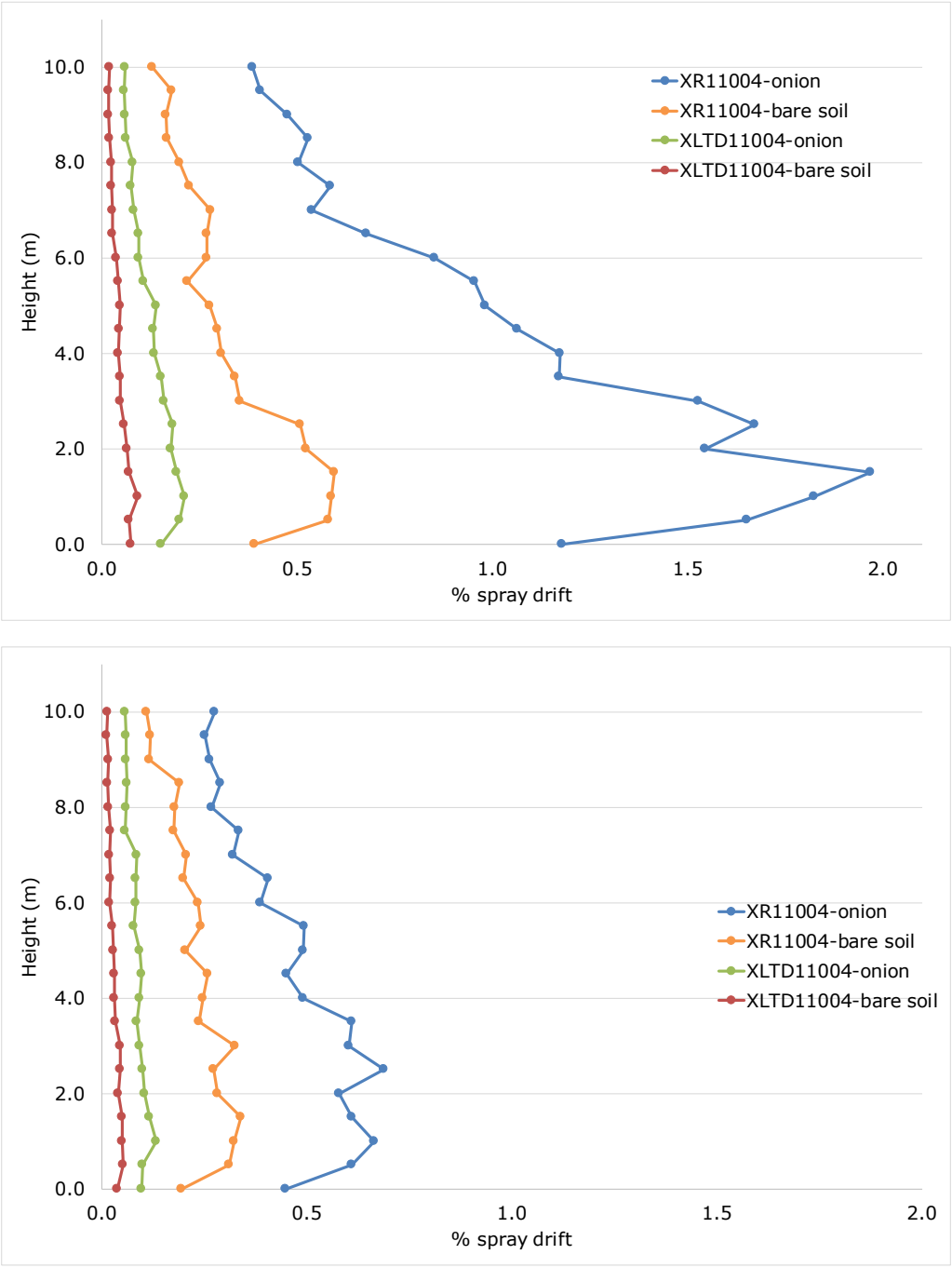

Figure 3.3 *Mean airborne spray drift (% of applied spray volume per unit area) measured with passive collectors at different heights at 25 m (top) and 50 m (bottom) from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

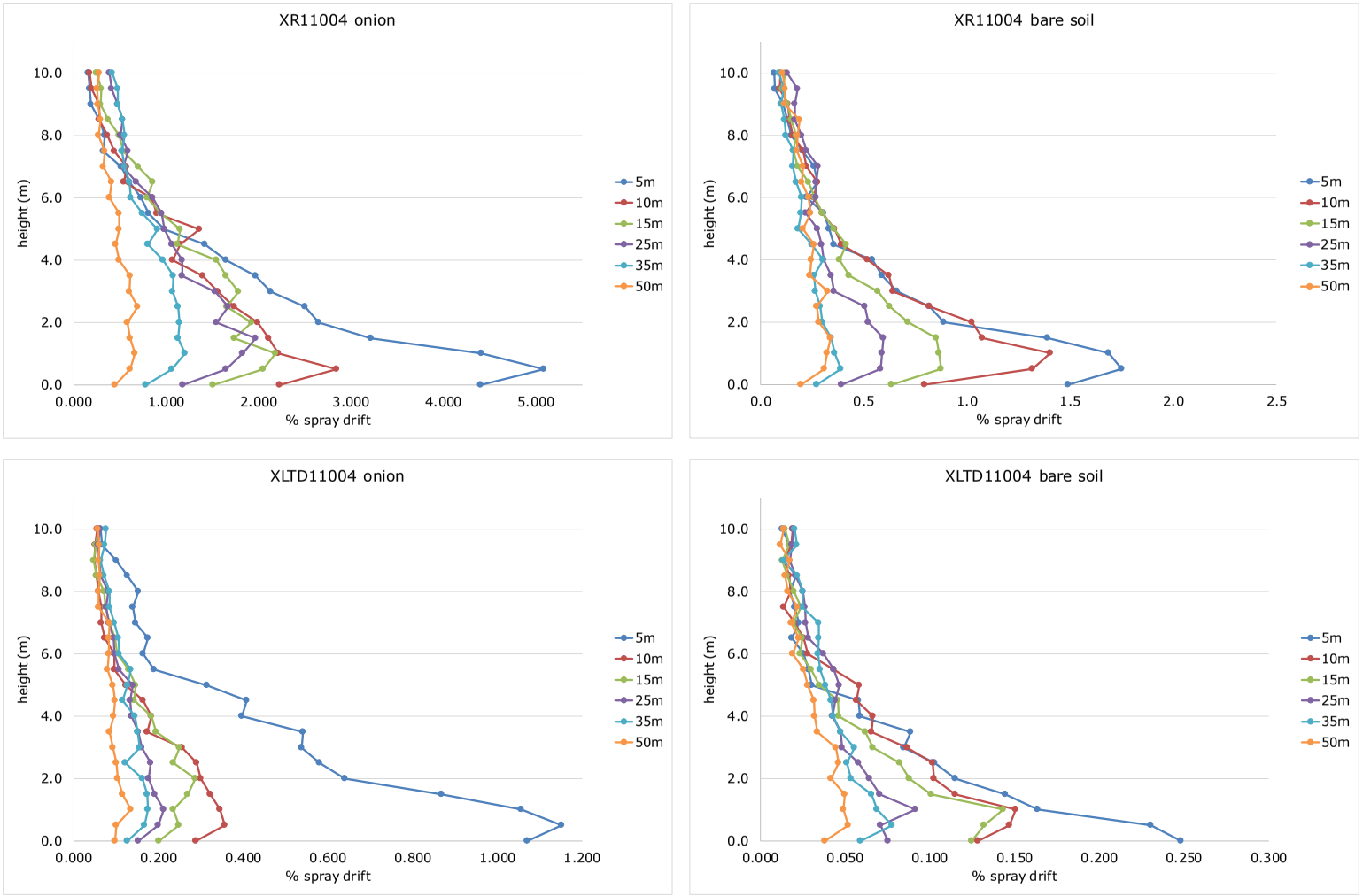

Figure 3.2 *Mean airborne spray drift (% of applied spray volume per unit area) measured with passive collectors at different heights at 5 m, 10 m, 15 m, 25 m, 35 m and 50 m from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

Figure 3.2, Table 3.5.1 and Table 3.5.2 show that for both nozzle types the airborne spray drift spraying an onion crop is higher than when spraying a bare soil surface. Airborne spray drift of the standard flat fan nozzle (XR11004) is higher than of the 90% drift reducing venturi flat fan nozzle (XLTD11004). Threshold values of the blank ball shaped collectors is for the bare soil surface spray applications 0.007-0.012%. For the measurements spraying an onion crop the threshold value is 0.010-0.020%. Figure 3.3, Table 3.5.1 and Table 3.5.2 show that at 25 m and 50 m distance from the last nozzle, both for spraying a bare soil surface as an onion crop, for the total of the heights of 10 m all average airborne spray drift values measured with the ball shaped collectors are above the threshold value. This is further worked out for the different height layers in Table 3.6.

Table 3.5.1 *Mean airborne spray drift (% of applied spray volume per unit area) measured with passive collectors at different heights at 5 m, 10 m, 15 m, 25 m, 35 m and 50 m from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) at 50 cm spray boom height*

	Bare soil						Onion					
Height	5 m	10 m	15 m	25 m	35 m	50 m	5 m	10 m	15 m	25 m	35 m	50 m
10.0	0.068	0.096	0.119	0.129	0.089	0.109	0.158	0.169	0.248	0.387	0.415	0.277
9.5	0.070	0.094	0.107	0.180	0.112	0.119	0.175	0.196	0.299	0.407	0.474	0.252
9.0	0.109	0.133	0.129	0.165	0.100	0.117	0.184	0.272	0.294	0.476	0.473	0.263
8.5	0.129	0.141	0.149	0.168	0.116	0.191	0.277	0.279	0.371	0.528	0.526	0.289
8.0	0.152	0.158	0.175	0.199	0.123	0.179	0.338	0.367	0.488	0.504	0.550	0.269
7.5	0.205	0.207	0.161	0.224	0.160	0.175	0.318	0.438	0.537	0.587	0.524	0.336
7.0	0.258	0.222	0.180	0.279	0.156	0.207	0.511	0.576	0.698	0.539	0.552	0.321
6.5	0.275	0.278	0.233	0.269	0.172	0.199	0.605	0.543	0.856	0.678	0.603	0.406
6.0	0.222	0.257	0.264	0.270	0.199	0.235	0.728	0.839	0.796	0.854	0.617	0.387
5.5	0.308	0.299	0.302	0.220	0.195	0.243	0.814	0.900	0.947	0.954	0.745	0.493
5.0	0.334	0.360	0.357	0.277	0.184	0.206	0.980	1.357	1.149	0.983	0.910	0.491
4.5	0.355	0.393	0.418	0.296	0.249	0.259	1.419	1.155	1.122	1.065	0.800	0.451
4.0	0.543	0.520	0.382	0.306	0.302	0.247	1.649	1.068	1.547	1.174	0.968	0.492
3.5	0.589	0.623	0.430	0.343	0.259	0.238	1.966	1.393	1.648	1.172	1.078	0.610
3.0	0.664	0.644	0.570	0.355	0.267	0.326	2.133	1.558	1.784	1.528	1.068	0.604
2.5	0.819	0.817	0.625	0.508	0.291	0.274	2.501	1.741	1.655	1.673	1.131	0.689
2.0	0.889	1.026	0.715	0.523	0.300	0.283	2.648	1.991	1.920	1.545	1.142	0.579
1.5	1.391	1.074	0.852	0.596	0.344	0.340	3.217	2.109	1.741	1.968	1.127	0.610
1.0	1.686	1.403	0.865	0.588	0.361	0.324	4.413	2.211	2.181	1.824	1.205	0.665
0.5	1.750	1.317	0.877	0.582	0.388	0.311	5.088	2.840	2.046	1.651	1.064	0.609
0.0	1.490	0.795	0.635	0.392	0.275	0.196	4.402	2.226	1.507	1.178	0.780	0.450

Table 3.5.2 *Mean airborne spray drift (% of applied spray volume per unit area) measured with ball shaped collectors at different heights at 5 m, 10 m, 15 m, 25 m, 35 m and 50 m from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

	Bare soil						Onion					
Height	5 m	10 m	15 m	25 m	35 m	50 m	5 m	10 m	15 m	25 m	35 m	50 m
10.0	0.013	0.019	0.015	0.019	0.020	0.014	0.063	0.056	0.059	0.061	0.076	0.057
9.5	0.017	0.018	0.017	0.019	0.022	0.012	0.067	0.050	0.052	0.058	0.073	0.060
9.0	0.014	0.014	0.013	0.017	0.013	0.018	0.101	0.048	0.047	0.060	0.063	0.059
8.5	0.021	0.017	0.016	0.021	0.022	0.015	0.126	0.054	0.054	0.063	0.071	0.063
8.0	0.018	0.018	0.020	0.025	0.025	0.016	0.152	0.059	0.072	0.081	0.084	0.059
7.5	0.020	0.014	0.024	0.026	0.025	0.022	0.139	0.064	0.075	0.076	0.084	0.058
7.0	0.023	0.020	0.020	0.027	0.035	0.018	0.146	0.066	0.084	0.083	0.096	0.085
6.5	0.019	0.026	0.025	0.028	0.035	0.023	0.175	0.073	0.097	0.095	0.106	0.083
6.0	0.026	0.028	0.023	0.037	0.034	0.019	0.165	0.095	0.102	0.095	0.108	0.083
5.5	0.029	0.043	0.030	0.043	0.035	0.025	0.189	0.096	0.129	0.107	0.135	0.079
5.0	0.030	0.058	0.035	0.046	0.039	0.028	0.314	0.123	0.146	0.139	0.127	0.092
4.5	0.058	0.057	0.046	0.044	0.042	0.032	0.409	0.163	0.142	0.134	0.115	0.098
4.0	0.059	0.067	0.046	0.042	0.043	0.032	0.397	0.182	0.184	0.136	0.144	0.094
3.5	0.089	0.066	0.062	0.048	0.048	0.034	0.541	0.174	0.194	0.152	0.151	0.085
3.0	0.085	0.087	0.067	0.048	0.055	0.044	0.537	0.255	0.250	0.160	0.155	0.093
2.5	0.103	0.101	0.082	0.058	0.051	0.046	0.581	0.289	0.235	0.182	0.121	0.101
2.0	0.115	0.103	0.088	0.065	0.053	0.042	0.640	0.300	0.286	0.176	0.161	0.104
1.5	0.145	0.115	0.101	0.071	0.066	0.050	0.868	0.323	0.269	0.191	0.173	0.116
1.0	0.164	0.151	0.144	0.091	0.069	0.049	1.055	0.345	0.235	0.212	0.175	0.134
0.5	0.230	0.147	0.132	0.071	0.078	0.052	1.152	0.356	0.248	0.200	0.167	0.101
0.0	0.248	0.129	0.125	0.075	0.059	0.038	1.071	0.289	0.200	0.153	0.127	0.098

Table 3.6 *Mean airborne spray drift (% of applied spray volume per unit area) measured with ball shaped collectors at different height layers and distances from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

		Bare soil						Onion					
Nozzle	Height layer	5 m	10 m	15 m	25 m	35 m	50 m	5 m	10 m	15 m	25 m	35 m	50 m
XR11004	0-1 m	1.642	1.172	0.792	0.521	0.341	0.277	4.634	2.426	1.912	1.551	1.016	0.575
	0-2 m	1.441	1.123	0.789	0.536	0.333	0.291	3.953	2.276	1.879	1.633	1.063	0.583
	0-3 m	1.241	1.011	0.734	0.506	0.318	0.293	3.486	2.097	1.834	1.624	1.074	0.601
	3-6 m	0.431	0.442	0.389	0.295	0.236	0.251	1.384	1.181	1.285	1.104	0.884	0.504
	0-10 m	0.586	0.517	0.407	0.327	0.221	0.228	1.644	1.154	1.135	1.032	0.798	0.454
XLTD11004	0-1 m	0.214	0.142	0.134	0.079	0.069	0.046	1.093	0.330	0.228	0.188	0.157	0.111
	0-2 m	0.180	0.129	0.118	0.075	0.065	0.046	0.957	0.323	0.248	0.186	0.161	0.110
	0-3 m	0.156	0.119	0.105	0.068	0.062	0.046	0.843	0.308	0.246	0.182	0.154	0.107
	3-6 m	0.053	0.058	0.044	0.044	0.042	0.031	0.365	0.156	0.164	0.132	0.134	0.089
	0-10 m	0.073	0.062	0.054	0.044	0.041	0.030	0.423	0.165	0.151	0.124	0.120	0.086

Airborne spray drift measured with the passive collectors is calculated for the different heights and presented in Table 3.6. Airborne spray drift at heights 0-1 m, 0-2 m and 3-6 m can be seen as representative for resp. children, adults and the first floor of a resident's home.

Bare soil surface

Spraying a bare soil surface using a boom sprayer equipped with XR11004 nozzles results in an airborne spray drift measured with passive collectors at 25 m distance from the last nozzle at the height layers of 0-1 m, 0-2 m and 0-3 m of resp. 0.521%, 0.536% and 0.506%. At 50 m distance these values are resp. 0.227, 0.291% and 0.293%. When the boom sprayer is equipped with XLTD11004 nozzles (DRN90) than the airborne spray drift at the height layers 0-1 m, 0-2 m and 0-3 m are resp. 0.079%, 0.075% and 0.068% at 25 m distance from the last nozzle and 0.046% for all three height layers at 50 m distance.

Onion crop

Spraying an onion crop using a boom sprayer equipped with XR11004 nozzles results in an airborne spray drift measured with passive collectors at 25 m distance from the last nozzle at the height layers of 0-1 m, 0-2 m and 0-3 m of resp. 1.551%, 1.633% and 1.624%. At 50 m distance these values are resp. 0.575%, 0.583% and 0.601%. When the boom sprayer is equipped with XLTD11004 nozzles (DRN90) than the airborne spray drift at these height layers are resp. 0.188%, 0.186% and 0.182% at 25 m distance and 0.111%, 0.110% and 0.107% at 50 m distance from the last nozzle.

Table 3.7 *Percentage of airborne spray drift measurements (measured with passive collectors) above the threshold value at different heights at 25 m and 50 m distance from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

	XR11004				XLTD11004			
	bare soil		onion		bare soil		onion	
Height	25 m	50 m	25 m	50 m	25 m	50 m	25 m	50 m
10.0	100	100	100	100	75	38	100	88
9.5	90	100	94	100	75	38	100	94
9.0	100	100	94	94	75	38	94	94
8.5	100	100	100	100	63	38	94	94
8.0	100	100	100	100	88	38	100	100
7.5	100	100	100	100	88	38	100	94
7.0	100	100	100	100	75	38	100	94
6.5	100	100	100	100	75	38	100	94
6.0	100	100	100	100	100	38	94	94
5.5	100	100	100	100	100	38	100	94
5.0	100	100	100	100	100	38	94	100
4.5	100	100	100	100	100	38	100	94
4.0	100	100	100	100	100	63	100	94
3.5	100	100	100	100	100	63	100	100
3.0	100	100	100	100	100	63	100	94
2.5	100	100	100	100	100	63	100	100
2.0	100	100	100	100	100	63	100	100
1.5	100	100	100	100	100	63	100	100
1.0	100	100	100	100	100	63	100	100
0.5	100	100	100	100	100	63	100	100
0.0	100	100	100	100	100	63	100	100

The percentage of measurements with airborne spray drift deposition values above the threshold value of the blank passive collectors is presented in Table 3.7. For the boom sprayer equipped with the XR11004 nozzle airborne spray drift at 50 m distance from the last nozzle is for the bottom 6 m height always above the threshold value, both for spraying a bare soil surface as spraying an onion crop. When the sprayer is equipped with XLTD11004 nozzles spraying a bare soil surface almost all measurements are above the threshold value at 25 m distance and 38%-63% at 50 m distance. Spraying an onion crop using the XLTD11004 nozzle up to 6 m height 94%-100% are above the threshold value both at 25 m as at 50 m distance from the last nozzle.

3.3.2 Passive measurements with line collectors

Average airborne spray drift measured with line collectors spraying a bare soil surface area and an onion crop using a boom sprayer equipped with standard nozzles (XR11004) and 90% drift reducing nozzles (XLTD11004) are for different distances presented in Figure 3.4, Table 3.8.1 (XR11004) and Table 3.8.2 (XLTD11004). In Figure 3.5 airborne spray drift at 25 m (top) and 50 m (bottom) from the last nozzle are presented. The results of the airborne spray drift measured at different heights is further presented in Table 3.9.

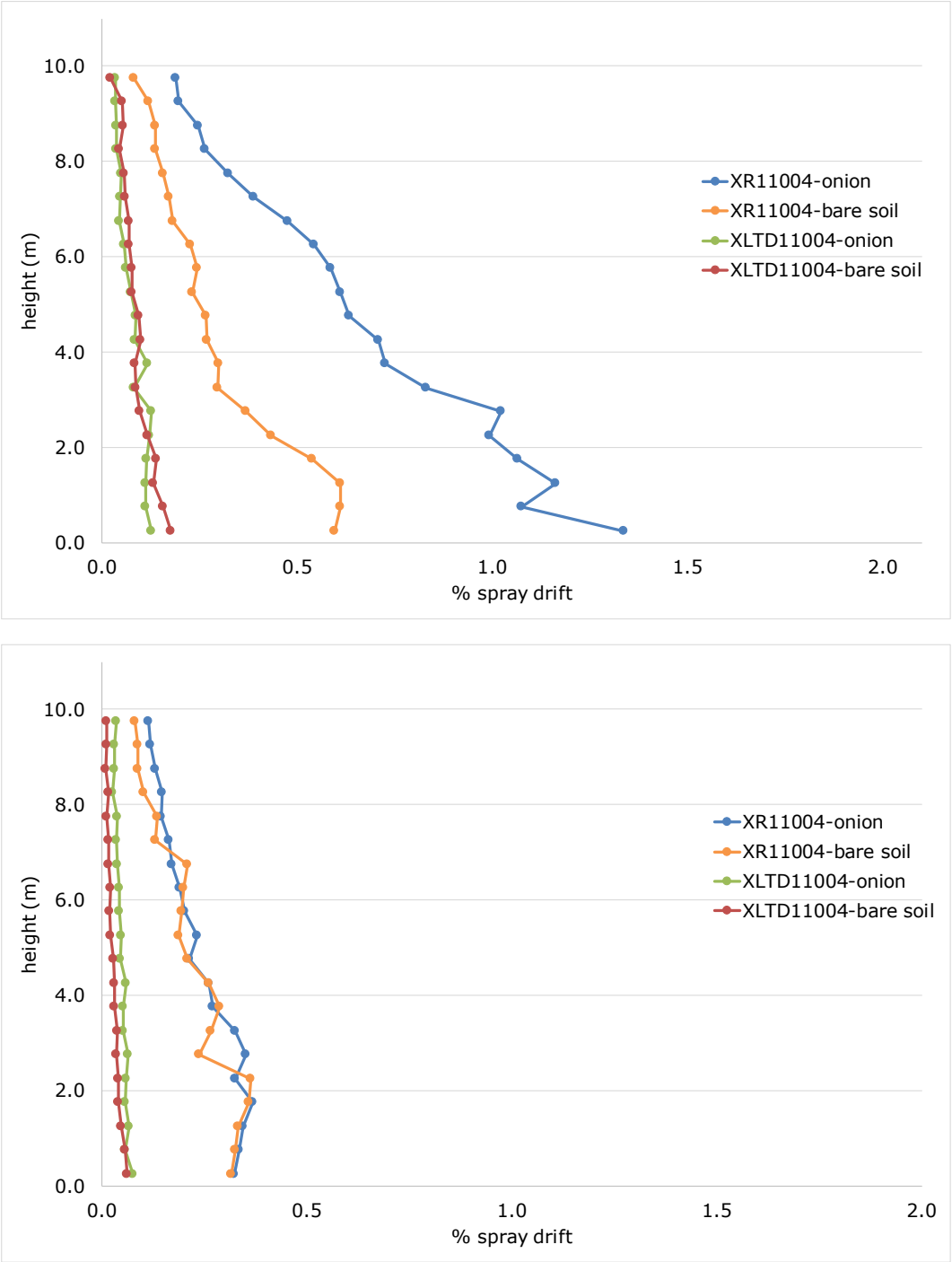

Figure 3.5 *Mean airborne spray drift (% of applied spray volume per unit area) measured with line collectors at different heights at 25 m (top) and 50 m (bottom) from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

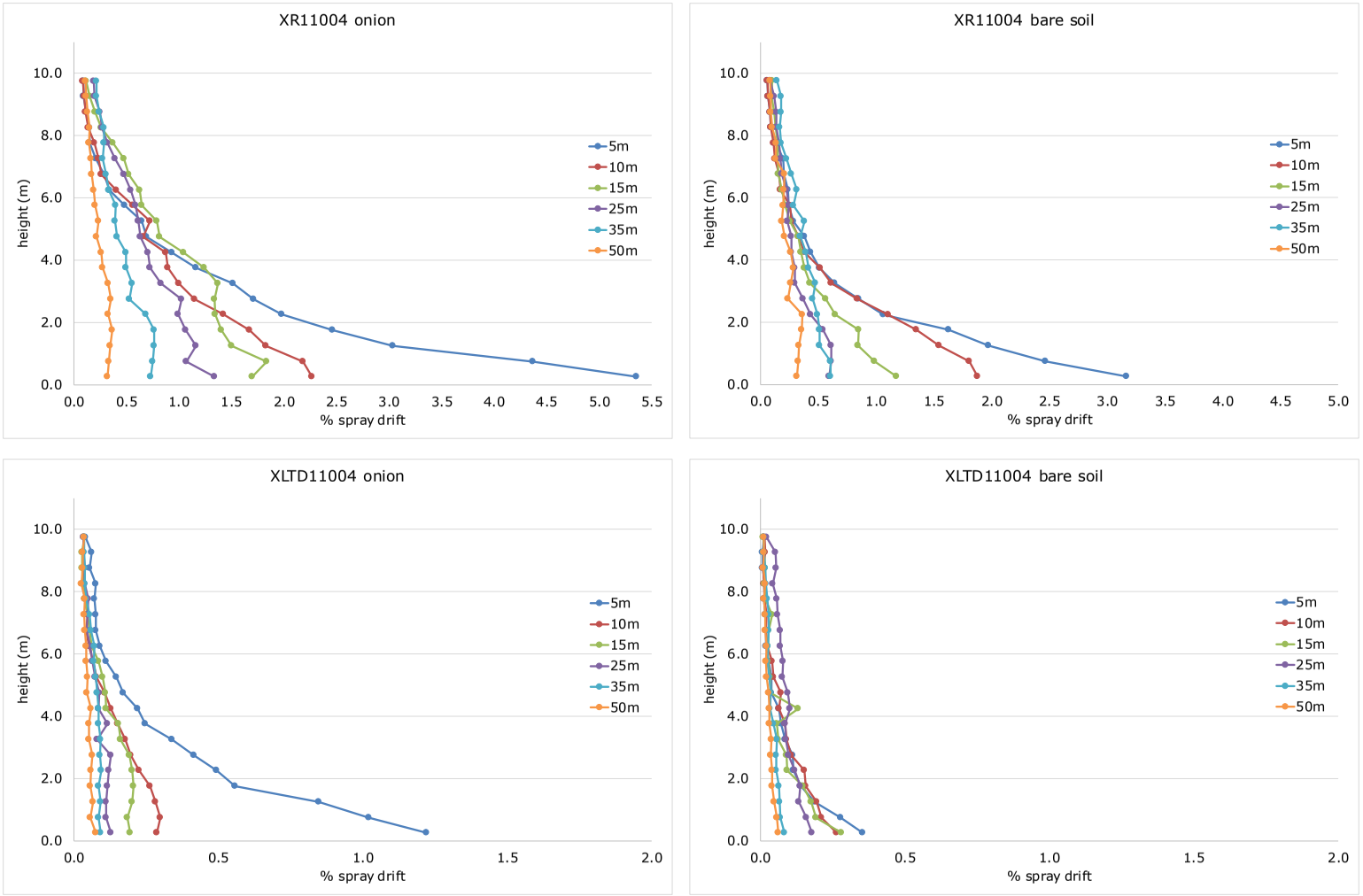

Figure 3.4 *Mean airborne spray drift (% of applied spray volume per unit area) measured with line collectors at different heights at 5 m, 10 m, 15 m, 25 m, 35 m and 50 m from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

Airborne spray drift measured with line collectors gives similar results as when measured with passive spherical collectors. The threshold values of the line collectors are a little lower than of the spherical collectors.
Measured airborne spray drift with the line collectors shows for both nozzle types (XR11004 and XLTD11004) a higher airborne spray drift when spraying a crop than when spraying a bare soil surface area. Threshold values of the blank line collectors is for the spray drift measurements spraying a bare soil surface 0.005-0.007%. For the spray drift experiments spraying an onion crop the threshold value for the blank line collectors was 0.006-0.012%.
Figure 3.5, Table 3.8.1 and Table 3.8.2 show that at 25 m and 50 m distance from the last nozzle, both for spraying a bare soil surface as an onion crop, for the total of the heights of 10 m all average airborne spray drift values measured with the line collectors are above the threshold value. This is further worked out for the different height layers in Table 3.9.

Table 3.8.1 *Mean airborne spray drift (% of applied spray volume per unit area) measured with line collectors at different heights at 5 m, 10 m, 15 m, 25 m, 35 m and 50 m from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) at 50 cm spray boom height*

	Bare soil						Onion					
Height	5 m	10 m	15 m	25 m	35 m	50 m	5 m	10 m	15 m	25 m	35 m	50 m
9.75	0.063	0.063	0.103	0.083	0.141	0.081	0.092	0.084	0.121	0.190	0.219	0.114
9.25	0.066	0.066	0.095	0.121	0.182	0.087	0.095	0.097	0.151	0.197	0.216	0.119
8.75	0.084	0.083	0.119	0.138	0.180	0.089	0.116	0.110	0.204	0.248	0.240	0.132
8.25	0.089	0.088	0.132	0.138	0.168	0.102	0.149	0.136	0.259	0.265	0.291	0.148
7.75	0.136	0.112	0.150	0.159	0.180	0.135	0.151	0.196	0.376	0.324	0.288	0.145
7.25	0.196	0.125	0.149	0.173	0.229	0.132	0.207	0.236	0.475	0.390	0.274	0.165
6.75	0.201	0.160	0.154	0.182	0.268	0.209	0.289	0.260	0.520	0.476	0.305	0.171
6.25	0.239	0.175	0.186	0.227	0.314	0.201	0.341	0.408	0.627	0.544	0.332	0.192
5.75	0.242	0.254	0.215	0.245	0.284	0.196	0.482	0.560	0.646	0.588	0.397	0.201
5.25	0.285	0.267	0.255	0.233	0.380	0.188	0.651	0.724	0.794	0.612	0.394	0.233
4.75	0.384	0.329	0.329	0.267	0.347	0.209	0.690	0.658	0.818	0.634	0.410	0.215
4.25	0.436	0.382	0.354	0.270	0.396	0.263	0.934	0.878	1.048	0.709	0.494	0.261
3.75	0.509	0.517	0.379	0.301	0.416	0.289	1.162	0.898	1.242	0.726	0.500	0.272
3.25	0.640	0.615	0.429	0.298	0.479	0.265	1.513	1.001	1.372	0.831	0.554	0.327
2.75	0.851	0.842	0.565	0.369	0.453	0.239	1.714	1.153	1.341	1.024	0.528	0.351
2.25	1.063	1.106	0.648	0.434	0.496	0.363	1.982	1.425	1.347	0.994	0.684	0.325
1.75	1.627	1.348	0.848	0.540	0.515	0.360	2.460	1.669	1.406	1.067	0.766	0.369
1.25	1.974	1.544	0.845	0.613	0.510	0.333	3.039	1.832	1.502	1.164	0.762	0.345
0.75	2.469	1.807	0.987	0.611	0.606	0.326	4.368	2.180	1.836	1.075	0.752	0.335
0.25	3.167	1.876	1.175	0.598	0.606	0.317	5.357	2.268	1.701	1.338	0.733	0.324

Table 3.8.2 *Mean airborne spray drift (% of applied spray volume per unit area) measured with line collectors at different heights at 5 m, 10 m, 15 m, 25 m, 35 m and 50 m from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

	Bare soil						Onion					
Height	5 m	10 m	15 m	25 m	35 m	50 m	5 m	10 m	15 m	25 m	35 m	50 m
9.75	0.013	0.015	0.011	0.023	0.013	0.012	0.040	0.035	0.036	0.035	0.037	0.035
9.25	0.008	0.016	0.013	0.052	0.012	0.013	0.062	0.030	0.029	0.035	0.035	0.032
8.75	0.008	0.010	0.017	0.056	0.018	0.010	0.054	0.034	0.029	0.037	0.038	0.031
8.25	0.016	0.012	0.014	0.044	0.021	0.017	0.076	0.037	0.031	0.038	0.039	0.026
7.75	0.013	0.015	0.017	0.057	0.024	0.013	0.073	0.038	0.037	0.050	0.044	0.039
7.25	0.016	0.021	0.040	0.061	0.028	0.018	0.076	0.048	0.048	0.047	0.056	0.036
6.75	0.018	0.019	0.028	0.070	0.029	0.017	0.077	0.043	0.054	0.046	0.059	0.038
6.25	0.020	0.025	0.027	0.070	0.027	0.021	0.091	0.054	0.063	0.057	0.072	0.043
5.75	0.030	0.042	0.027	0.078	0.025	0.020	0.112	0.068	0.086	0.064	0.070	0.042
5.25	0.038	0.044	0.034	0.077	0.031	0.023	0.148	0.078	0.100	0.075	0.076	0.048
4.75	0.039	0.071	0.036	0.096	0.036	0.030	0.171	0.107	0.109	0.088	0.082	0.046
4.25	0.065	0.065	0.132	0.101	0.035	0.032	0.220	0.129	0.113	0.085	0.086	0.060
3.75	0.073	0.086	0.057	0.086	0.045	0.031	0.246	0.151	0.155	0.117	0.087	0.053
3.25	0.086	0.092	0.061	0.087	0.057	0.039	0.339	0.177	0.161	0.082	0.094	0.052
2.75	0.113	0.107	0.092	0.099	0.054	0.036	0.415	0.197	0.194	0.128	0.091	0.066
2.25	0.115	0.153	0.093	0.118	0.055	0.042	0.495	0.226	0.203	0.122	0.095	0.060
1.75	0.140	0.157	0.148	0.139	0.065	0.040	0.558	0.264	0.208	0.116	0.086	0.058
1.25	0.187	0.194	0.175	0.134	0.067	0.048	0.847	0.282	0.202	0.113	0.092	0.066
0.75	0.279	0.212	0.194	0.158	0.070	0.058	1.022	0.299	0.187	0.113	0.086	0.056
0.25	0.353	0.265	0.279	0.178	0.084	0.063	1.221	0.287	0.196	0.129	0.093	0.077

Table 3.9 *Mean airborne spray drift (% of applied spray volume per unit area) measured with line collectors at different height layers and distances from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

		Bare soil						Onion					
Nozzle	**Height**	**5 m**	**10 m**	**15 m**	**25 m**	**35 m**	**50 m**	**5 m**	**10 m**	**15 m**	**25 m**	**35 m**	**50 m**
XR11004	0-1 m	2.818	1.842	1.081	0.605	0.606	0.321	4.863	2.224	1.769	1.206	0.743	0.329
	0-2 m	2.309	1.644	0.964	0.591	0.559	0.334	3.806	1.987	1.611	1.161	0.753	0.343
	0-3 m	1.859	1.420	0.845	0.527	0.531	0.323	3.153	1.755	1.522	1.110	0.704	0.341
	3-6 m	0.478	0.458	0.361	0.283	0.393	0.235	1.021	0.839	1.037	0.732	0.468	0.266
	0-10 m	0.736	0.588	0.406	0.300	0.357	0.219	1.290	0.839	0.889	0.670	0.457	0.237
XLTD11004	0-1 m	0.316	0.238	0.237	0.168	0.077	0.060	1.122	0.293	0.191	0.121	0.089	0.067
	0-2 m	0.240	0.207	0.199	0.152	0.071	0.052	0.912	0.283	0.198	0.118	0.089	0.064
	0-3 m	0.198	0.181	0.163	0.138	0.066	0.048	0.760	0.259	0.198	0.120	0.090	0.064
	3-6 m	0.063	0.072	0.063	0.089	0.041	0.030	0.236	0.130	0.131	0.091	0.084	0.052
	0-10 m	0.082	0.081	0.075	0.089	0.040	0.029	0.317	0.129	0.112	0.079	0.071	0.048

Airborne spray drift measured with the line collectors is for the different height layers calculated and presented in Table 3.9. Airborne spray drift at heights 0-1 m, 0-2 m and 3-6 m can be seen as representative for resp. children, adults and the first floor of a resident's home.

Bare soil surface

Spraying a bare soil surface using a boom sprayer equipped with XR11004 nozzles results in an airborne spray drift measured with line collectors at 25 m distance from the last nozzle at the height layers of 0-1 m, 0-2 m and 0-3 m of resp. 0.605%, 0.591% and 0.527%. At 50 m distance these values are resp. 0.321, 0.334% and 0.323%. When the boom sprayer is equipped with XLTD11004 nozzles than the airborne spray drift at the height layers 0-1 m, 0-2 m and 0-3 m are resp. 0.168%, 0.152% and 0.138% at 25 m distance from the last nozzle and 0.048% for all three height layers at 50 m distance.

Onion crop

Spraying an onion crop using a boom sprayer equipped with XR11004 nozzles results in an airborne spray drift measured with line collectors at 25 m distance from the last nozzle at the height layers of 0-1 m, 0-2 m and 0-3 m of resp. 1.121%, 1.161% and 1.110%. At 50 m distance these values are resp. 0.329%, 0.343% and 0.341%. When the boom sprayer is equipped with XLTD11004 nozzles than the airborne spray drift at these height layers are resp. 0.121%, 0.118% and 0.120% at 25 m distance and 0.067%, 0.064% and 0.064% at 50 m distance from the last nozzle.

Table 3.10 *Percentage of airborne spray drift measurements (measured with line collectors) above the threshold value at different heights at 25 m and 50 m distance from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

	XR11004				XLTD11004			
	bare soil		onion		bare soil		onion	
Height	25 m	50 m	25 m	50 m	25 m	50 m	25 m	50 m
9.75	100	100	94	100	50	75	94	94
9.25	100	100	100	100	50	63	94	88
8.75	100	100	100	94	63	50	88	81
8.25	100	100	100	94	63	63	88	81
7.75	100	100	94	100	75	75	88	88
7.25	100	100	100	100	50	88	88	88
6.75	100	100	100	100	88	88	88	94
6.25	100	100	100	100	100	75	94	88
5.75	100	100	100	100	100	63	94	88
5.25	100	100	100	100	100	75	94	94
4.75	100	100	100	100	100	100	94	88
4.25	100	100	100	100	100	100	94	88
3.75	100	100	100	100	100	100	94	94
3.25	100	100	100	100	100	100	93	94
2.75	100	100	100	100	100	100	94	94
2.25	100	100	100	100	100	100	100	94
1.75	100	100	100	100	100	100	100	94
1.25	100	100	100	100	100	100	100	100
0.75	100	100	100	100	100	100	100	100
0.25	100	100	100	100	100	100	100	100

The percentage of measurements with airborne spray drift deposition values above the threshold value of the line collectors is presented in Table 3.10. For the boom sprayer equipped with the XR11004 nozzles airborne spray drift at 25 m and 50 m distance from the last nozzle is for the whole mast of 10 m height always above the threshold value, both for spraying a bare soil surface as spraying an onion crop.
When the sprayer is equipped with XLTD11004 nozzles spraying a bare soil surface the measurements up to 6.25 m height are all above the threshold value at 25 m distance and up to 4.75 m at 50 m distance. Spraying an onion crop using the XLTD11004 nozzles up to 2.25 m height all measurements are above the threshold value and up to 10 m height 81-94% of the measurements are above the threshold value both at 25 m as at 50 m distance from the last nozzle.

3.3.3 Active measurements with suction heads

Average airborne spray drift measured with the suction head collectors spraying a bare soil surface area and an onion crop using a boom sprayer equipped with standard nozzles (XR11004) and 90% drift reducing nozzles (XLTD11004; DRN90) are for different distances presented in Figure 3.6 and Table 3.11. The results of the airborne spray drift measured at different heights are presented in Table 3.12.
During the measurements of the boom sprayer using XLTD11004 nozzles spraying the upwind swath of the bare soil surface the suction heads were not switched on; only for the downwind swath spraying. The results of this measurement are not included in the presented results.

Table 3.11 *Mean airborne spray drift (% of applied spray volume per unit area) measured with suction head collectors at different heights at 5 m, 15 m and 50 m from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with standard (XR11004) and 90% drift reducing (XLTD11004; DRN90) nozzles at 50 cm spray boom height*

		Bare soil			Onion		
Nozzle	Height	5 m	15 m	50 m	5 m	15 m	50 m
XR11004	6.00	2.181	2.343	1.440	4.213	5.134	3.258
	5.00	2.900	2.975	1.604	4.921	6.325	3.832
	4.00	4.031	3.745	1.610	7.298	8.209	4.894
	3.00	5.420	4.812	1.906	11.428	10.848	5.759
	2.00	7.294	6.042	2.056	18.359	14.147	6.937
	1.00	9.938	8.173	2.658	24.942	19.061	7.952
	0.65	10.803	8.792	2.908	28.812	19.931	7.964
	0.37	12.161	10.289	2.964	33.692	21.583	7.848
XLTD11004	6.00	0.183	0.295	0.295	0.821	0.874	0.639
	5.00	0.250	0.310	0.309	1.044	0.985	0.644
	4.00	0.326	0.362	0.343	1.321	1.291	0.647
	3.00	0.450	0.402	0.414	2.014	1.566	0.724
	2.00	0.632	0.580	0.509	3.000	2.049	0.831
	1.00	0.794	0.782	0.575	3.086	2.406	0.838
	0.65	1.032	0.837	0.607	3.406	2.549	0.898
	0.37	1.310	0.998	0.664	3.388	2.445	0.872

Measured airborne spray drift with the suction head collectors (Figure 3.6; Table 3.11) shows for both nozzle types (XR11004 and XLTD11004) a higher airborne spray drift when spraying a crop than when spraying a bare soil surface area. In all cases airborne spray drift of the boom sprayer equipped with standard nozzles (XR11004) is always higher than when the sprayer is equipped with 90% drift reducing nozzles (XLTD11004). Airborne spray drift measured with the suction heads is for the XR11004 nozzle spraying an onion crop highest at 0.37 m height and at 5 m distance 33.7% and reducing to 7.8% at 50 m distance. For the XLTD11004 nozzle at 5 m distance and 0.37-0.65 m height airborne spray drift is 3.4% and reducing to 0.9% at 50 m distance. Threshold values of the blank filter collectors used in the suction heads is for the spray drift measurements spraying a bare soil surface 0.004-0.006%. For the spray drift measurements in the onion crop the threshold value of the blank filters was 0.005-0.010%. For all spray drift experiments spraying a bare soil surface and an onion crop for both nozzle types (XR11004, XLTD11004) at all heights and distances the spray drift deposition values measured with the suction heads are above the threshold value of the blank filter collectors.
Airborne spray drift measured with the suction head collectors is for the different height layers presented in Table 3.12.

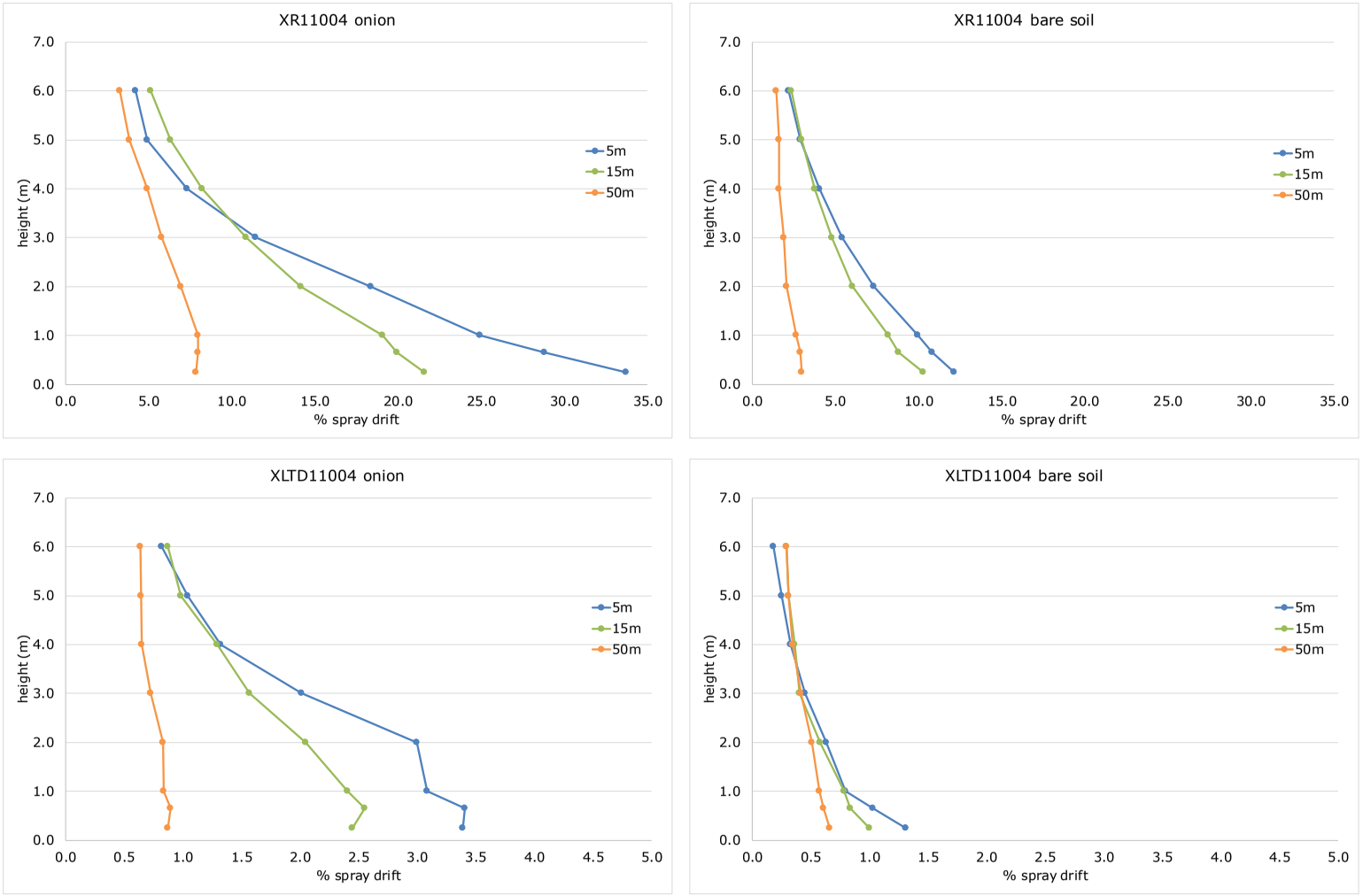

Figure 3.6 *Mean airborne spray drift (% of applied spray volume per unit area) measured with suction head collectors at different heights at 5 m, 15 m and 50 m from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

Table 3.12 *Mean airborne spray drift (% of applied spray volume per unit area) measured with suction head collectors at different height layers at 5 m, 15 m and 50 m distance from the last nozzle spraying the outside two swaths (2x27 m) of a bare soil surface area and an onion crop using a boom sprayer equipped with a standard nozzle (XR11004) and a 90% drift reducing nozzle (XLTD11004; DRN90) at 50 cm spray boom height*

		Bare soil			Onion		
Nozzle	Height	5 m	15 m	50 m	5 m	15 m	50 m
XR11004	0-1	10.967	9.085	2.844	29.149	20.192	7.921
	0-2	10.049	8.324	2.647	26.452	18.681	7.675
	0-3	9.123	7.621	2.498	23.447	17.114	7.292
	3-6	3.633	3.469	1.640	6.965	7.629	4.436
	0-6	6.841	5.896	2.143	16.708	13.155	6.055
XLTD11004	0-1	1.045	0.872	0.615	3.293	2.467	0.869
	0-2	0.942	0.799	0.589	3.220	2.362	0.860
	0-3	0.844	0.720	0.554	2.979	2.203	0.832
	3-6	0.302	0.342	0.340	1.300	1.179	0.663
	0-6	0.622	0.571	0.464	2.260	1.771	0.761

Bare soil

At 50 m distance from the last nozzle spraying a bare soil surface using a boom sprayer equipped with a standard nozzle (XR11004) results in an airborne spray drift value at 0-1 m, 0-2 m and 0-3 m height layers of resp. 2.844%, 2.647% and 2.498% when measured with suction heads (Table 3.12). When the boom sprayer is equipped with XLTD11004 nozzles than airborne spray drift values at these height layer are resp. 0.615%, 0.589% and 0.554%.

Onion crop

When spraying an onion crop using a boom sprayer equipped with standard nozzles (XR11004) airborne spray drift at 50 m distance from the last nozzle is at the height layers 0-1 m, 0-2 m and 0-3 m resp. 7.921%, 7.675% and 7.292% when measured using suction heads. When the boom sprayer is equipped with XLTD11004 nozzles instead than the airborne spray drift at the different height layers are resp. 0.869%, 0.860% and 0.832%.

4 Discussion

Spray drift reduction
In the spray drift experiments presented a comparison is made between a conventional boom sprayer equipped with a standard flat fan nozzle type (XR11004) and a 90% drift reducing flat fan venturi type nozzle XLTD11004 (DRN90; TCT, 2017). Spray drift reduction of the XLTD11004 nozzle can be evaluated by comparing the spray drift deposition at ground level of the XLTD11004 nozzle against that of the XR11004 nozzle at different downwind distances (Table 4.1).

Table 4.1 *Spray drift reduction (%) of the 90% drift reducing nozzle (Agrotop XLTD11004; DRN90) spraying a crop and a bare soil surface situation measured at ground level at different distances from the last nozzle (m)*

	2-3	5-10	15-16	20-21	25-26	30-31	35-36	40-41	45-46	49-50
crop	94	90	92	92	93	93	93	93	96	94
bare soil	86	86	85	85	84	69	88	89	91	88

Spray drift reduction for DRN and DRT classification is evaluated as ground deposition of spray drift at 2-3 m distance from the last nozzle (TCT, 2017) when spraying a full-grown field crop. This means that the XLTD11004 nozzle performed in these spray drift experiments as a 90% drift reducing nozzle, since spray drift reduction in the crop situation at 2-3 m distance is 94%. In the crop situation the reduction for the XLTD11004 nozzle is at all distances more than 90% and on average 93%. However, in the bare soil surface situation the spray drift reduction is 86% at 2-3 m distance from the last nozzle and on average 85% for all distances measured.

Similarly, from Table 3.6 the spray drift reduction of the airborne spray drift at 5 m and 50 m distance was calculated for the 90% drift reducing nozzle type (XLTD11004) spraying the onion crop and the bare soil surface (Table 4.2). Airborne spray drift reduction at 5 m distance spraying the onion crop was for the XLTD11004 nozzle 74% and for the bare soil surface spraying 88% measured with the passive collectors. At 50 m distance, the airborne spray drift reduction measured with the passive collectors was 81% and 87%; spraying the onion crop and the bare soil surface. Measured with the active suction head collectors the spray drift reduction at 5 m distance was 86% spraying the onion crop and 91% spraying the bare soil surface and resp. 87% and 78% at 50 m distance from the treated field.

Table 4.2 *Airborne spray drift reduction (%) of the 90% drift reducing nozzle (Agrotop XLTD11004) spraying a crop and a bare soil surface situation measured with passive collectors and active (suction head) collectors at 5 m and 50 m distance from the treated area*

	Passive collectors		Active collectors	
	5 m	50 m	5 m	50 m
crop	74	81	86	87
bare soil	88	87	91	78

Comparison of collected ground and airborne spray drift
In order to compare the collected spray drift deposition at ground level and the airborne spray drift collected with the passive collectors the average values of airborne spray drift over 0-1 m, 0-2 m and 0-3 m height are presented over distance spraying a bare soil surface area (Figure 4.1) and an onion crop (Figure 4.2). Sampled airborne spray drift over the different height layers is much higher than

collected spray drift deposits at the ground collectors at the same distance. This is both the case for the standard flat fan nozzle XR11004 as for the drift reducing venturi flat fan nozzle XLTD11004 (DRN90).

Bare soil surface spraying

For the XR11004 nozzle airborne spray drift (0-2 m height) is 1.44% at 5 m distance (Table 3.6) whereas ground deposition (Table 3.2) is 0.37% and respectively 0.18% and 0.05% for the XLTD11004 nozzle spraying a bare soil surface. At 50 m distance airborne spray drift (0-2 m height) is 0.31% and 0.046% for the XR11004 and XLTD11004 nozzles and ground deposition is respectively 0.02% and 0.002% for both nozzle types (and below threshold value of resp. 0.005% for the XLTD11004). This shows that airborne spray drift (0-2 m height) is about 4 times higher at 5 m distance (Table 4.3) and that this ratio increases with distance.

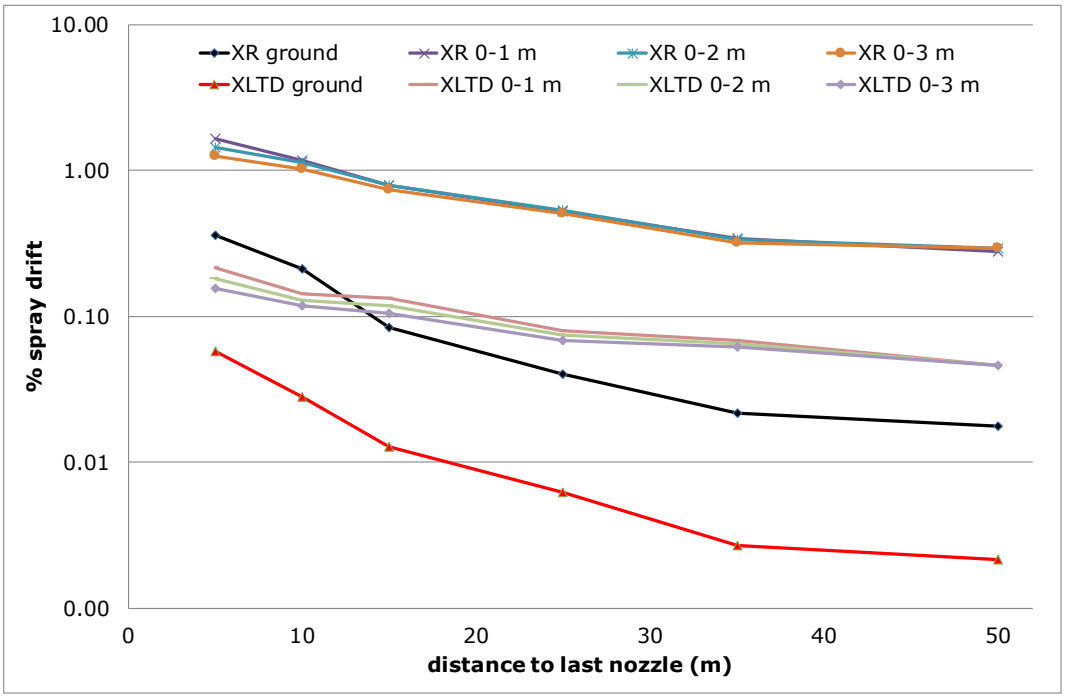

Figure 4.1 *Airborne spray drift (% of sprayed volume) measured with passive collectors at different height layers above ground and spray drift deposition at ground collectors downwind of a 54 m wide bare soil surface area sprayed swath using a 27 m working width conventional boom sprayer at 50 cm boom height and two nozzle types (XR11004, standard flat fan nozzle; XLTD11004 90% drift reducing venturi nozzle type) applying 300 L ha^{-1} at up to 50 m distance from the last nozzle*

Table 4.3 *Ratios in spray drift deposition between spray drift deposition at ground level, passive collectors over 0-2 m height and active air sampling over 0-2 m height for a 54 m sprayed bare soil surface swath with a conventional boom sprayer at 50 cm boom height and equipped with XR11004 standard flat fan nozzles and XLTD11004 90% drift reducing venturi flat fan nozzles at 5 m, 15 m and 50 m distance from the sprayed swath (last nozzle position)*

		5 m	15 m	50 m
Passive 0-2 m/ground	XR	4	9	17
Passive 0-2 m/ground	XLTD	3	9	21
Active/passive 0-2 m	XR	7	11	9
Active/passive 0-2 m	XLTD	5	7	13
Active 0-2 m/ground	XR	28	91	142
Active 0-2 m/ground	XLTD	16	63	>150

When spraying a bare soil surface area the airborne spray drift in the 0-2 m height layer is from 4 times higher than ground deposits at 5 m distance and increases to 17 times higher at 35-50 m distance from the last nozzle for the XR11004 nozzle. For the XLTD11004 nozzle this ratio increases from 3 at 5 m distance up to 21 at 35-50 m. Bystanders and residents (of 2 m height) standing around the field can therefore expect up to a 20 times higher exposure based on these passive airborne spray drift data than of the ground deposition data at the same distance. In a similar way the passively and actively collected airborne spray drift differ. The active samplers collect about 5-7 times more drift at 5 m distance up to 9-13 times more drift at 50 m distance (Table 4.3). Comparing the collected airborne spray drift with the active air sampling collectors and the spray deposition at ground level at the same distance, data show a 16-28 times higher airborne spray drift collected at 5 m distance up to 142 times higher airborne spray drift over 0-2 m height at 50 m distance from the treated bare soil surface field.

Crop spraying

When spraying an onion crop using the XR11004 nozzle airborne spray drift (0-2 m height) is 3.95% at 5 m distance (Table 3.6) whereas ground deposition (Table 3.2) is 1.43% and respectively 0.96% and 0.13% for the XLTD11004 nozzle. At 50 m distance airborne spray drift (0-2 m height) is 0.58% and 0.11% for the XR11004 and XLTD11004 nozzles and ground deposition is respectively 0.02% and 0.001% for both nozzle types (and below threshold value of 0.010% for the XLTD11004). This shows that airborne spray drift (0-2 m height) is about 3 to 7 times higher at 5 m distance (Table 4.4) and that this ratio increases with distance.

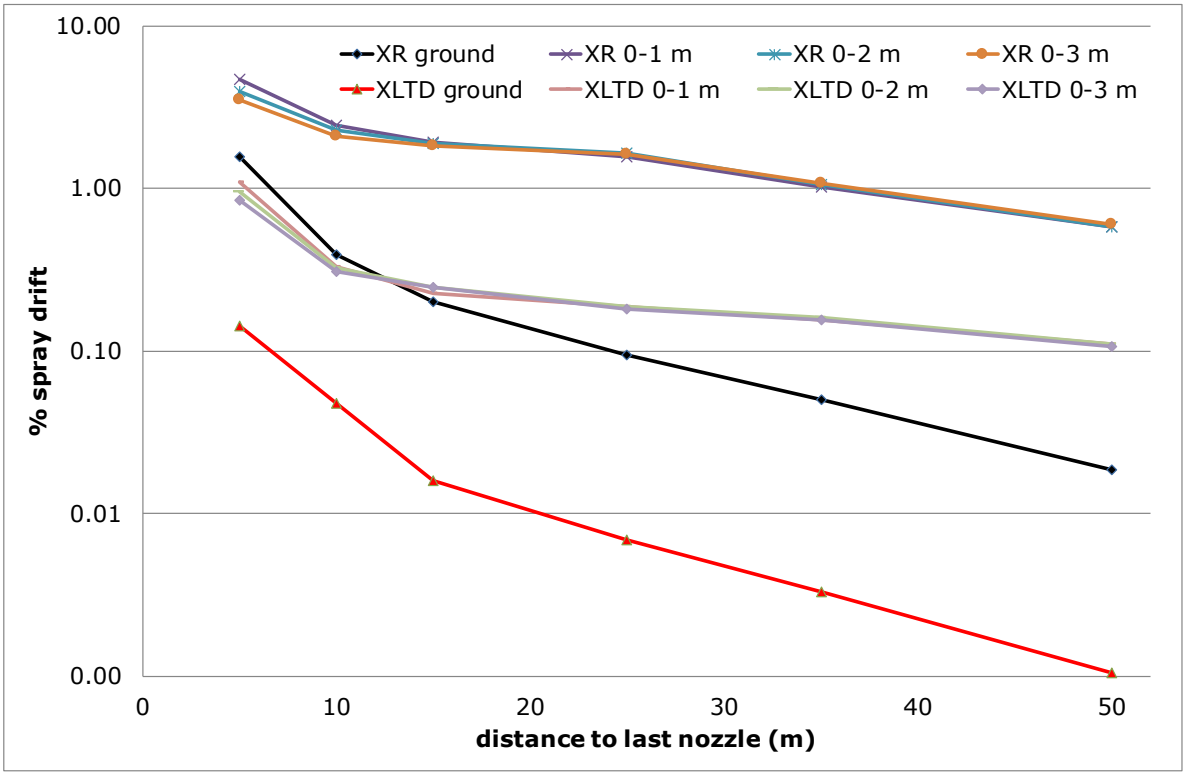

Figure 4.2 *Airborne spray drift (% of sprayed volume) measured with passive collectors at different height layers above ground and spray drift deposition at ground collectors downwind of a 54 m wide onion crop sprayed swath using a 27 m working width conventional boom sprayer at 50 cm boom height and two nozzle types (XR11004, standard flat fan nozzle; XLTD11004 90% drift reducing venturi nozzle type) applying 300 L ha^{-1} at up to 50 m distance from the last nozzle*

When spraying a cropped area the airborne spray drift in the 0-2 m height layer increases from 3 times higher than ground deposits at 5 m distance up to 31 times higher at 50 m distance from the last nozzle for the XR11004 nozzle. For the XLTD11004 nozzle this ratio ranges from 7 at 5 m distance up to more than 100 at 50 m, which is caused by the very low spray drift deposition values at 50 m

distance of the XLTD11004 nozzle (below threshold value). Bystanders and residents (of 2 m height) standing around the field can therefore expect up to a 3-100 times higher exposure based on these passive airborne spray drift data than of the ground deposition data at the same distance. In a similar way the passively and actively collected airborne spray drift differ. The active samplers collect about 3-7 times more drift at 5 m distance up to 8-13 times more drift at 50 m distance (Table 4.4).

Table 4.4 *Ratios in spray drift deposition between spray drift deposition at ground level, passive collectors over 0-2 m height and active air sampling over 0-2 m height for a 54 m sprayed swath onion crop with a conventional boom sprayer at 50 cm boom height and equipped with XR11004 standard flat fan nozzles and XLTD11004 drift reducing venturi flat fan nozzles at 5 m, 15 m and 50 m distance from the sprayed swath (last nozzle position)*

		5 m	15 m	50 m
Passive 0-2 m/ground	XR	3	9	31
Passive 0-2 m/ground	XLTD	7	16	105
Active/passive 0-2 m	XR	7	10	13
Active/passive 0-2 m	XLTD	3	10	8
Active 0-2 m/ground	XR	17	85	>150
Active 0-2 m/ground	XLTD	22	149	>150

Comparing the collected airborne spray drift with the active air sampling collectors and the spray deposition at ground level at the same distance, data show a 17-22 times higher airborne spray drift collected at 5 m distance up to more than 150 times higher airborne spray drift over 0-2 m height at 50 m distance from the treated field crop.

From earlier spray drift experiments performed in the Netherlands and the UK, it was known that airborne spray drift was higher than ground deposit at the same distance (Zande *et al.*, 2017; Butler Ellis & Miller, 2010). Butler Ellis & Miller (2010) reported airborne spray drift over 0-2 m height at 2 m distance from the field edge to be 1-4 times higher than ground deposit at 2 m distance. Zande et al (2017) found at 5 m distance from the treated field, airborne spray drift (0-3 m height) to be 1-4 times higher than spray drift deposition at ground level. At larger distances the ratio airborne to ground deposition of spray drift could be as high as 140 which was dependent on the used spray technique (standard and DRT) and distance. However, Zande *et al.* (2017) presented results based on estimates of airborne spray drift at larger distances as airborne spray drift in the past was mainly measured only at 5 m distance and only in a few cases at other distances further away from the treated area. In this study, airborne spray drift measurements are performed up to 50 m from the treated area and show that airborne spray drift is much higher at distances further away from the treated area. Therefor the airborne/ground spray drift deposition ratio measured in this study is much higher than estimated earlier (Zande *et al.*, 2017). In this study, airborne spray drift (measured with passive collectors) is measured at higher levels (above threshold value 0.05%) at larger distances (up to 50 m) from the treated area than estimated by Zande *et al.* (2017), also with the 90% drift reducing nozzle type. Ground spray drift deposition of the 90% drift reducing nozzle type is below threshold level (0.010%) already at 25 m distance from the treated area.

Crop height

The spray drift measurements done spraying a bare soil surface and a developed onion crop (crop height 50 cm) show that spray drift ground deposition is higher when spraying a crop situation than when spraying a bare soil surface. Similarly, airborne spray drift is higher when spraying a crop than that for a bare soil surface, irrespective of the method used to measure airborne spray drift (passive or active sampling collectors). This holds for both the conventional standard flat fan nozzle and the 90% drift reducing venturi flat fan nozzles as used in the presented experiments.

5 Conclusions

Results of these spray drift measurements show that when spraying a bare soil surface and an onion crop with a standard flat fan nozzle or a 90% drift reducing venturi flat fan nozzle (DRN90), airborne spray drift is higher than collected ground deposition at the same distance from the treated field. Spray drift ground deposition, as well as airborne spray drift is higher when spraying a developed crop (50 cm crop height) than when spraying a bare soil surface. With a conventional boom sprayer equipped with standard flat fan nozzles operating at a spray boom height of 0.50 m above ground, spray drift deposition at the ground and airborne spray drift are above the detection limit, up to 50 m distance and 10 m height. For the 90% drift reducing venturi flat fan nozzle spray drift ground deposition is at 25 m and beyond lower than the detection limit whereas the airborne spray drift at 50 m still is above the detection limit for the passive airborne spray drift collectors. Airborne spray drift for the active air sampling devices is about 3 to 13 times higher than of the used passive airborne drift collectors. At 5 m from the treated field, airborne spray drift averaged over 0-2 m height is for the passive collectors up to 7 times higher than drift deposits at ground collectors. At 50 m distance passive airborne drift is up to 100 times higher than spray drift deposition at ground collectors. The ratio of airborne drift to ground deposits for active airborne samplers is even higher: averaged over 0–2 m height at 5 m distance this ratio is up to 28, while at 50 m distance from the treated field the ratio is more than 150.
In this study, airborne spray drift measurements are performed up to 50 m from the treated area and show that airborne spray drift is much higher than ground deposits at distances further downwind from the treated area. Therefore, the airborne/ground spray drift deposition ratio measured in this study is also much higher than determined in earlier studies.

Spray drift measurements are most of the time focused on deposition at ground level to quantify the exposure of surface water and non-target zones for plants and arthropods. From the spray drift measurements performed in these studies it becomes clear that more attention is to be paid to airborne spray drift. As a potential route of exposure, airborne spray drift can be relevant for dermal exposure (passive collectors), inhalation exposure (active suction collectors) of residents standing outside (bystander) and the exposure of resident's homes. Future spray drift experiments are advised to take up also airborne spray drift measurements at multiple distances as part of the protocol.
From the 50 m distance spray drift measurements in 2015 and 2016 it was concluded that at 50 m distance airborne spray drift was measured both with passive collectors as with active suction collectors. This was even so for the 90% drift reducing nozzle used. It is therefore recommended to do more 'long distance' spray drift experiments to quantify the effect of spray drift reducing techniques (DRT) at higher levels to quantify if 'no drift' situations can occur with the highest DRT classes, being a 95%, 97,5% and 99% drift reducing technique.

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Annex 1 Weather conditions during spray drift experiments

Weather conditions spraying a bare soil surface

Technique	Date		Temperature [^{0}C] at		RH	Wind angle to cross	Wind speed [m/s] at				
		#	0,5 m	4 m	%	cross=0^0	0,5 m	2 m	3 m	4 m	10 m
XR11004	4-11-2015	1	14.8	*	71	-24	3.2	3.6	3.9	4.0	4.4
			14.9	*	71	-21	2.8	3.4	3.6	3.7	3.9
XLTD11004		1	15.3	*	69	-22	2.6	3.0	3.4	3.4	3.7
			15.3	*	69	-22	2.1	2.4	2.8	3.0	3.3
XLTD11004		2	14.4	*	73	-15	1.0	1.3	1.7	1.9	2.4
			14.6	*	72	-22	1.3	1.5	1.8	1.9	2.3
XR11004		2	14.4	*	74	-45	1.7	2.1	2.4	2.6	3.2
			14.4	*	74	-43	2.0	2.4	2.6	2.7	3.5
XR11004	5-11-2015	3	11.8	*	91	23	1.8	2.3	2.6	2.7	2.7
			11.9	*	91	23	1.8	2.0	2.2	2.4	3.3
XLTD11004		3	14.6	*	84	-31	2.7	3.4	3.6	3.7	4.7
			14.5	*	84	-34	3.8	4.3	4.4	4.5	5.5
XR11004	20-4-2016	4	*	17.1	*	33	1.1	0.9	1.2	1.4	1.2
			*	18.5	*	37	2.6	2.7	3.2	3.2	*
XLTD11004	21-4-2016	4	*	13.4	44	34	0.7	0.9	1.2	1.2	1.4
			*	12.7	43	28	1.7	2.2	2.7	2.6	2.7
XR11004		5	*	16.8	32	-18	1.2	1.3	1.5	1.5	*
			*	17.3	30	15	1.2	1.3	1.4	1.5	*
XR11004		6	x	x	x	x	x	x	x	x	x
			*	*	28	8	2.0	2.3	2.6	2.8	*

*=no data, malfunction; x= only downwind swath of 27 m sprayed

Weather conditions spraying an onion crop

Technique	Date		Temperature [^{0}C] at		RH	Wind angle to cross	Wind speed [m/s] at				
		#	0,5 m	4 m	%	haaks=0^0	0,5 m	2 m	3 m	4 m	10 m
XR11004	17-8-2016	1	25.9	23.6	29	29	3.8	3.8	4.2	4.2	6.0
			25.3	23.7	29	-10	1.0	2.3	2.7	2.7	4.2
XLTD11004		1	24.9	23.4	27	-11	3.8	3.6	4.0	4.2	5.5
			24.6	23.7	27	-13	1.7	1.8	1.9	1.9	4.2
XLTD11004	18-8-2016	2	21.3	*	48	0	3.2	2.7	3.1	3.2	6.3
			22.0	*	48	-12	1.7	3.0	3.2	3.3	5.9
XR11004		2	23.9	22.4	44	-3	1.0	1.6	1.9	2.2	4.6
			23.7	22.4	43	20	2.1	1.9	2.2	2.3	4.6
XR11004		3	24.5	22.9	38	-8	2.1	3.9	4.1	4.3	7.5
			24.1	22.7	39	13	4.8	3.6	3.8	3.9	6.3
XLTD11004		3	25.6	23.7	36	43	4.2	3.3	3.6	3.7	6.0
			26.8	24.8	36	-2	1.4	1.5	1.6	1.6	3.6
XLTD11004		4	26.6	24.9	32	-26	3.2	3.1	3.4	3.5	5.3
			27.1	25.3	28	-15	1.3	1.2	1.4	1.4	3.3
XR11004	20-9-2016	4	21.6	19.8	*	68	1.3	1.2	1.3	1.3	1.1
			22.1	20.2	*	-5	0.8	0.6	0.8	0.9	1.3
XR11004		5	19.7	18.1	*	-24	2.2	2.3	2.6	2.6	2.9
			19.6	18.2	*	-21	2.0	2.0	2.5	2.5	3.0
XLTD11004		5	20.7	19.1	78	5	1.7	1.8	2.0	2.2	2.4
			20.8	19.3	76	-28	2.0	2.3	2.4	2.2	2.6
XLTD11004		6	20.1	19.1	77	18	1.2	1.1	1.4	1.5	1.5
			20.4	19.0	78	40	2.0	2.3	2.6	2.8	2.8
XR11004		6	19.5	*	75	-10	1.4	1.4	1.6	1.6	2.0
			19.3	*	65	-20	1.6	1.6	1.8	1.8	2.2
XR11004	23-9-2016	7	18.6	16.8	*	-14	1.9	2.1	2.1	2.1	2.1
			17.9	16.5	*	-8	1.7	2.0	2.0	2.2	2.2
XLTD11004		7	21.5	18.9	*	-10	3.2	3.4	3.5	6.9	6.9
			21.6	18.8	*	2	2.8	3.2	3.6	7.2	7.2
XLTD11004		8	24.9	19.6	78	18	2.8	3.1	3.1	5.9	5.9
			25.6	20.0	81	-5	3.5	3.7	3.8	6.3	6.3
XR11004		8	23.8	19.0	53	9	4.3	4.5	4.8	7.1	7.1
			23.6	19.3	53	15	4.3	4.7	5.1	7.3	7.3

*=no data, malfunction

Weather data (spray drift measuring area) of the Metpak ultrasonic anemometer at 2 m height - spraying a bare soil surface

Technique	Date	#	Temperature [^{0}C]	RH [%]	Wind angle to cross cross=0^0	Wind speed [m/s]
XR11004	4-11-2015	1	15	70	-24	2.8
			15	70	-23	3.5
XLTD11004		1	16	69	-14	2.9
			16	69	-21	3.1
XLTD11004		2	16	69	-21	3.1
			15	71	-28	2.0
XR11004		2	15	71	-41	2.7
			15	70	-42	2.7
XR11004	5-11-2015	3	12	91	-37	2.5
			12	91	-32	2.3
XLTD11004		3	15	85	-46	2.5
			15	84	-40	3.8
XR11004	20-4-2016	4	13	40	-31	0.7
			14	38	-116	2.5
XLTD11004	21-4-2016	4	13	49	18	2.7
			13	47	52	1.9
XR11004		5	16	38	-45	1.8
			17	38	18	3.2
XR11004		6	x	x	x	x
			17	34	-9	1.4

x= only downwind swath of 27 m sprayed

Weather data (upwind area) of the Metpak ultrasonic anemometer at 2 m height - spraying a bare soil surface

Technique	Date	#	Temperature [^{0}C]	RH [%]	Wind angle to cross haaks=0^0	Wind speed [m/s]
XR11004	4-11-2015	1	16	70	-10	3.8
			16	71	-19	2.5
XLTD11004		1	16	69	-20	3.1
			16	69	-20	2.7
XLTD11004		2	15	70	-16	1.9
			15	72	-24	1.7
XR11004		2	16	70	-47	2.2
			15	71	-48	2.3
XR11004	5-11-2015	3	12	92	-30	2.5
			12	92	-29	2.9
XLTD11004		3	15	84	-37	3.9
			15	84	-38	4.6
XR11004	20-4-2016	4	13	40	-7	1.2
			14	39	58	3.4
XLTD11004	21-4-2016	4	13	49	34	1.0
			13	48	29	2.5
XR11004		5	*	*	*	*
			*	*	*	*
XR11004		6	*	*	*	*
			*	*	*	*

*=no data

Weather data (spray drift measuring area) of the Metpak ultrasonic anemometer at 2 m height - spraying an onion crop

Technique	Date	#	Temperature [^{0}C]	RH [%]	Wind angle to cross cross=0^0	Wind speed [m/s]
XR11004	17-8-2016	1	*	*	*	*
			*	*	*	*
XLTD11004		1	*	*	*	*
			*	*	*	*
XLTD11004	18-8-2016	2	20	51	-4	2.9
			20	52	-18	3.1
XR11004		2	22	47	-24	1.6
			22	47	32	1.9
XR11004		3	23	41	1	4.8
			23	41	28	3.6
XLTD11004		3	24	40	38	3.1
			24	39	-2	1.4
XLTD11004		4	25	36	-27	3.2
			25	35	13	1.3
XR11004	20-9-2016	4	19	52	103	0.7
			19	52	-8	2.0
XR11004		5	18	46	-20	2.0
			18	48	-30	2.7
XLTD11004		5	19	46	5	2.5
			19	46	-44	2.2
XLTD11004		6	19	48	39	0.9
			19	47	55	2.1
XR11004		6	19	52	2	1.4
			19	53	-1	1.7
XR11004	23-9-2016	7	17	80	-11	2.1
			17	82	-15	1.6
XLTD11004		7	19	74	-22	2.2
			19	73	-31	3.3
XLTD11004		8	20	63	-16	2.5
			20	60	-89	3.0
XR11004		8	19	55	-16	4.2
			19	54	-5	3.9

*=no data

Annex 2 Spray deposition (% of applied spray volume per unit area) on top of crop canopy

Nozzle	Crop	Collector	#1	#2	#3	#4	#5	*#6	#7	#8
XR11004	Bare soil	A	103	115	101	103	125	121		
		B	99	115	97	98	104	93		
		C	100	98	102	119	107	*		
		D	107	94	105	121	112	*		
		E	106	110	94	96	116	*		
		F	125	98	100	126	108	*		
		G	110	116	92	119	127	115		
		H	115	105	106	105	110	96		
	Onion	A	132	128	111	66	72	77	71	95
		B	149	130	116	87	80	97	94	120
		C	109	118	96	115	119	102	76	75
		D	146	128	133	71	91	84	88	118
		E	110	116	94	79	98	80	96	120
		F	145	130	100	112	122	103	57	113
		G	134	135	114	103	105	103	100	119
		H	125	134	113	69	76	80	76	71
XLTD11004	Bare soil	A	89	90	91	103				
		B	91	91	92	90				
		C	95	88	104	107				
		D	98	95	103	99				
		E	93	92	94	107				
		F	101	101	96	103				
		G	99	97	103	115				
		H	100	95	115	95				
	Onion	A	116	115	122	137	96	102	99	91
		B	115	126	126	144	97	105	92	105
		C	122	113	130	156	97	98	93	100
		D	123	121	128	161	104	103	104	103
		E	112	125	124	155	108	107	104	112
		F	119	117	123	145	106	102	95	114
		G	125	120	123	145	111	102	105	102
		H	127	123	117	144	103	99	95	105

Annex 3 Spray drift deposition (% of applied spray volume per unit area) at ground surface downwind of sprayed crop

Threshold value per repetition of spray drift measurement

Nozzle	Threshold value	1	2	3	4	5	6	7	8
XR11004 bare soil	15-50 m	0.004	0.004	0.004	0.005	0.005	0.006		
	½-10 m	0.004	0.004	0.003	0.004	0.005	0.005		
XR11004 onion	15-50 m	0.005	0.006	0.006	0.007	0.007	0.008	0.010	0.010
	½-10 m	0.004	0.005	0.005	0.006	0.006	0.007	0.009	0.008
XLTD11004 bare soil	15-50 m	0.004	0.004	0.004	0.005				
	½-10 m	0.003	0.003	0.003	0.004				
XLTD11004 onion	15-50 m	0.005	0.006	0.006	0.006	0.007	0.007	0.009	0.009
	½-10 m	0.004	0.005	0.005	0.005	0.006	0.006	0.008	0.008

Spray drift deposition [%]; Technique: XR11004 standard flat fan nozzle - spraying bare soil surface area

Distance to nozzle	1		2		3		4		5		6 *	
	1	2	1	2	1	2	1	2	1	2	1	2
49-50 m	0.030	0.032	0.019	0.017	0.044	0.047	*0.003*	*0.004*	*0.003*	0.008	*0.001*	*0.001*
	0.026		0.005		0.050		*-0.001*		*0.002*		*0.000*	
	0.025		0.005		0.048		*-0.001*		*0.002*		*0.000*	
	0.027		0.005		0.047		*-0.001*		*0.002*		*0.000*	
	0.024		*0.004*		0.048		*0.000*		*0.004*		*0.000*	
45-46 m	0.030	0.021	0.020	0.019	0.048	0.038	*0.001*	*0.003*	0.011	*0.004*	*0.003*	*0.004*
	0.027		0.007		0.046		*0.002*		*0.005*		*0.002*	
	0.030		0.007		0.050		*0.001*		*0.003*		*0.002*	
	0.030		0.011		0.050		*0.003*		*0.003*		*0.003*	
	0.031		0.023		0.051		*0.002*		0.010		*0.004*	
40-41 m	0.026	0.023	0.044	0.042	0.051	0.039	0.010	*0.003*	*0.004*	*0.004*	*0.003*	*0.002*
	0.018		0.033		0.052		*0.001*		*0.002*		*0.004*	
	0.021		0.032		0.053		*0.002*		*0.003*		*0.003*	
	0.019		0.032		0.056		*0.001*		*0.003*		*0.005*	
	0.024		0.035		0.052		*0.003*		*0.004*		*0.003*	
35-36 m	0.025	0.038	0.052	0.036	0.039	0.041	*0.004*	*0.003*	0.007	*0.005*	*0.004*	*0.003*
	0.017		0.032		0.045		*0.003*		0.014		*0.003*	
	0.023		0.024		0.039		*0.003*		0.012		0.008	
	0.019		0.029		0.040		*0.003*		0.010		*0.003*	
	0.019		0.021		0.039		*0.004*		0.008		*0.003*	

* Repetition 6 only the downwind 27 m swath was sprayed (crop edge)

30-31 m	0.035	0.039	0.052	0.039	0.040	0.068	0.013	*0.003*	0.007	0.008	0.006	0.007
	0.031		0.026		0.052		0.012		*0.004*		*0.004*	
	0.028		0.023		0.042		0.013		*0.005*		*0.004*	
	0.032		0.022		0.041		0.014		0.006		0.006	
	0.027		0.027		0.044		0.012		*0.005*		*0.005*	
25-26 m	0.049	0.058	0.073	0.066	0.079	0.074	0.013	0.014	0.008	0.008	0.010	0.008
	0.038		0.049		0.070		0.016		0.008		0.010	
	0.040		0.049		0.074		0.017		0.007		0.015	
	0.041		0.047		0.079		0.018		0.009		0.010	
	0.044		0.052		0.070		0.016		0.011		0.008	
20-21 m	0.065	0.100	0.081	0.077	0.084	0.113	0.018	0.019	0.016	0.013	0.009	0.009
15-16 m	0.109	0.125	0.104	0.125	0.139	0.133	0.014	0.032	0.019	0.034	0.013	0.012
9½-10 m	0.288	0.302	0.360	0.214	0.342	0.205	0.062	0.114	0.102	0.126	0.049	0.038
9-9½ m	0.331	0.294	0.336	0.232	0.319	0.242	0.047	0.163	0.096	0.122	0.060	0.025
8½-9 m	0.340	0.263	0.243	0.192	0.236	0.237	*	0.265	0.104	0.162	0.054	0.035
8-8½ m	0.344	0.274	0.231	0.233	0.228	0.232	0.101	0.106	0.118	0.145	*	0.033
7½-8 m	0.355	0.333	0.227	0.236	0.259	0.216	0.165	*	0.127	0.153	0.077	0.045
7-7½ m	0.290	0.294	0.225	0.284	0.644	0.235	0.314	0.173	0.145	0.182	0.093	0.042
6½-7 m	0.335	0.333	0.215	0.421	0.482	0.239	0.310	0.155	0.149	0.258	*	0.068
6-6½ m	0.347	0.329	0.274	0.398	0.238	0.283	0.408	0.189	0.156	0.250	0.139	0.091
5½-6 m	0.360	0.377	0.313	0.317	0.276	0.384	0.397	0.161	0.177	0.383	0.195	0.125
5-5½ m	0.347	0.382	0.404	0.531	0.369	0.594	0.279	0.198	0.182	0.394	0.217	0.133
4½-5 m	0.317	0.325	0.446	0.441	0.296	0.534	0.294	0.243	0.206	0.453	0.284	0.146
4-4½ m	0.411	0.364	0.693	0.331	0.326	0.349	0.396	0.280	0.210	0.499	0.375	0.220
3½-4 m	0.442	0.506	0.556	0.480	0.484	0.481	0.745	0.289	0.247	0.611	0.495	0.327
3-3½ m	0.618	0.377	0.463	0.539	1.153	0.652	1.258	0.721	0.291	0.520	0.508	0.398
2½-3 m	0.736	0.398	0.687	0.722	1.795	0.843	1.327	1.300	0.573	0.806	0.791	0.763
2-2½ m	0.796	0.598	0.852	0.786	1.187	1.022	1.588	0.679	2.076	1.229	1.424	2.007
1½-2 m	0.800	0.699	1.140	0.932	2.306	2.722	2.488	2.057	3.547	3.132	2.336	4.067
1-1½ m	1.834	1.866	4.048	2.246	6.486	7.806	7.416	4.489	5.901	5.031	8.716	9.309
½-1 m	19.560	15.102	19.294	22.291	21.274	20.491	22.584	24.362	22.021	19.043	19.323	21.221

Spray drift deposition [%]; Technique: XR11004 standard flat fan nozzle - spraying an onion crop

Distance to last nozzle	1		2		3		4		5		6 *		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
49-50 m	0.015	0.020	0.008	0.013	0.021	0.022	*0.000*	*0.003*	0.011	0.018	0.012	0.020	0.023	0.015	0.074	0.043
	0.014		0.006		0.018		*-0.002*		0.009		0.011		0.014		0.072	
	0.014		0.008		0.017		*-0.002*		0.009		0.010		0.016		0.069	
	0.015		*0.005*		0.018		*-0.002*		0.011		0.012		0.015		0.064	
	0.017		0.006		0.019		*-0.001*		0.015		0.016		0.018		0.064	
45-46 m	0.019	0.029	0.016	0.012	0.026	0.022	*0.001*	*0.001*	0.009	0.010	0.011	0.011	0.019	0.015	0.120	0.071
	0.019		0.008		0.023		*-0.001*		*0.007*		*0.008*		0.016		0.109	
	0.017		0.008		0.027		*-0.001*		0.008		0.008		0.016		0.113	
	0.022		0.008		0.026		*-0.001*		0.008		0.009		0.018		0.124	
	0.021		0.008		0.028		*-0.001*		0.008		0.008		0.019		0.127	
40-41 m	0.021	0.032	0.010	0.008	0.033	0.033	*0.001*	*0.003*	0.008	0.008	0.009	0.009	0.025	0.016	0.150	0.120
	0.023		0.009		0.026		*0.002*		*0.007*		*0.007*		0.023		0.171	
	0.022		0.009		0.031		*0.003*		0.009		0.010		0.021		0.163	
	0.022		0.007		0.032		*0.000*		*0.007*		*0.008*		0.022		0.173	
	0.022		0.007		0.027		*		*0.007*		*0.008*		0.025		0.178	
35-36 m	0.031	0.037	0.011	0.008	0.034	0.032	*0.005*	0.016	0.013	0.010	0.015	0.011	0.032	0.018	0.241	0.201
	0.025		0.010		0.031		*0.002*		0.011		0.013		0.033		0.287	
	0.026		0.010		0.039		*0.004*		0.012		0.014		0.027		0.294	
	0.022		0.010		0.032		*0.003*		0.012		0.013		0.029		0.289	
	0.029		0.008		0.033		*0.005*		0.015		0.016		0.030		0.292	

30-31 m	0.027	0.034	0.025	0.027	0.031	0.043	0.023	0.024	0.017	0.012	0.019	0.013	0.050	0.023	0.310	0.331
	0.027		0.010		0.033		0.023		0.014		0.016		0.049		0.338	
	0.030		0.009		0.031		0.023		0.016		0.018		0.052		0.339	
	0.026		0.012		0.034		0.022		0.015		0.017		0.047		0.355	
	0.029		0.021		0.046		0.023		0.017		0.019		0.052		0.360	
25-26 m	0.040	0.063	0.023	0.013	0.046	0.035	0.044	0.059	0.026	0.018	0.029	0.020	0.077	0.057	0.480	0.407
	0.039		0.014		0.042		0.039		0.022		0.025		0.072		0.534	
	0.038		0.016		0.045		0.042		0.022		0.025		0.065		0.513	
	0.040		0.032		0.040		0.039		0.020		0.023		0.065		0.531	
	0.039		0.012		0.044		0.040		0.024		0.027		0.068		0.500	
20-21 m	0.061	0.073	0.027	0.018	0.050	0.030	0.092	0.091	0.030	0.026	0.033	0.029	0.146	0.103	0.452	0.788
15-16 m	0.076	0.066	0.033	0.016	0.058	0.065	0.170	0.238	0.032	0.034	0.036	0.038	0.210	0.243	1.024	0.867
9½-10 m	0.325	0.247	0.092	0.096	0.132	0.145	0.356	0.212	0.178	0.108	0.198	0.120	0.438	0.599	1.861	1.178
9-9½ m	0.314	0.228	0.076	0.095	0.143	0.115	0.390	0.208	0.219	0.115	0.244	0.128	0.541	0.680	2.139	1.242
8½-9 m	0.332	0.215	0.095	0.102	0.111	0.147	0.420	0.222	0.174	0.180	0.194	0.201	0.626	0.679	2.371	1.309
8-8½ m	0.391	0.223	0.088	0.117	0.118	0.140	0.370	0.250	0.254	0.146	0.284	0.163	0.774	0.769	2.828	1.467
7½-8 m	0.447	0.276	0.114	0.152	0.133	0.139	0.431	0.261	0.347	0.257	0.387	0.287	0.876	0.906	2.823	1.469
7-7½ m	0.477	0.382	0.124	0.343	0.198	0.164	0.447	0.281	0.290	0.368	0.324	0.410	1.077	1.054	3.480	1.417
6½-7 m	0.515	0.343	0.123	0.273	0.203	0.141	0.458	0.372	0.346	0.425	0.386	0.474	1.301	1.243	4.083	1.436
6-6½ m	0.609	0.494	0.116	0.250	0.207	0.167	0.526	0.304	0.621	0.382	0.692	0.425	1.538	1.560	4.960	1.812
5½-6 m	0.591	0.496	0.160	0.275	0.213	0.214	0.669	0.375	1.060	0.589	1.182	0.656	1.655	1.767	5.599	2.351
5-5½ m	0.628	0.680	0.173	0.525	0.210	0.198	1.723	0.594	1.137	0.582	1.268	0.649	1.653	2.626	5.940	4.323
4½-5 m	0.786	0.784	0.306	0.750	0.201	0.199	1.021	0.457	1.676	0.824	1.869	0.919	1.981	3.002	7.501	5.169
4-4½ m	1.080	1.070	0.524	0.334	0.241	0.262	1.702	0.445	1.632	1.168	1.820	1.302	2.923	4.177	8.657	6.286
3½-4 m	1.404	1.605	1.233	0.356	0.257	0.307	2.161	0.705	1.912	1.661	2.132	1.852	3.312	5.448	11.545	4.946
3-3½ m	1.055	2.725	2.150	0.470	0.318	0.348	3.605	1.370	4.071	1.509	4.540	1.682	4.531	7.008	13.803	4.912
2½-3 m	1.041	3.705	1.473	0.511	0.343	0.442	6.390	1.686	5.694	2.572	6.349	2.868	6.306	9.000	17.772	6.572
2-2½ m	1.719	6.197	1.445	0.675	0.391	0.577	8.260	2.016	7.376	6.804	8.224	7.587	10.717	11.738	26.468	14.317
1½-2 m	4.433	7.807	2.032	2.154	0.540	0.838	15.364	4.673	14.459	8.744	16.122	9.749	18.957	14.526	35.130	24.058
1-1½ m	12.586	18.160	7.946	9.207	2.316	3.714	31.255	25.357	29.830	19.766	33.261	22.039	34.086	30.441	51.277	40.193
½-1 m	27.577	39.034	23.369	20.193	16.482	23.537	56.908	46.745	62.866	45.138	70.095	50.329	58.387	47.897	70.690	57.882

Spray drift deposition [%]; Technique: XLTD11004 venturi flat fan nozzle - spraying bare soil surface area

Distance to last nozzle	1		2		3		4	
	1	2	1	2	1	2	1	2
49-50 m	*	0.009	*0.003*	*0.001*	0.011	0.009	*-0.003*	*0.000*
	*		*0.000*		0.008		*-0.003*	
	*		*0.000*		0.004		*-0.003*	
	*		*0.000*		0.004		*-0.003*	
	*		*0.000*		0.007		*-0.002*	
45-46 m	*	*0.002*	*0.001*	*0.001*	0.009	0.006	*-0.003*	*-0.001*
	*		*0.000*		0.009		*-0.003*	
	*		*0.000*		0.008		*-0.003*	
	*		*0.000*		0.007		*-0.003*	
	*		*0.000*		0.007		*-0.003*	
40-41 m	*	0.005	*0.003*	0.004	0.015	0.006	*-0.002*	*0.000*
	*		*0.001*		0.006		*-0.003*	
	*		*0.000*		0.006		*-0.002*	
	*		*0.000*		0.005		*-0.002*	
	*		*0.001*		0.008		*-0.002*	
35-36 m	*	0.005	*0.002*	*0.003*	0.009	0.009	*-0.002*	*-0.001*
	*		*0.000*		0.007		*-0.003*	
	*		*0.000*		0.011		*-0.003*	
	*		*0.001*		0.007		*-0.003*	
	*		*0.000*		0.011		*-0.001*	

Spray drift deposition [%]; Technique: XLTD venturi flat fan nozzle - spraying an onion crop

Distance to last nozzle	1		2		3		4		5		6 *		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
49-50 m	*0.000*	*0.004*	0.011	*0.003*	*-0.001*	*0.001*	*0.004*	*0.005*	*0.000*	*-0.002*	*-0.002*	*0.000*	*0.002*	*0.005*	*0.003*	*0.002*
	0.000		*0.001*		*-0.001*		*0.002*		*0.000*		*0.000*		*0.002*		*0.003*	
	-0.001		*-0.001*		*-0.001*		*0.001*		*0.004*		*-0.002*		*0.000*		*0.001*	
	-0.001		*-0.001*		*0.001*		*0.001*		0.012		*-0.003*		*-0.001*		*0.000*	
	0.000		*-0.002*		*-0.002*		*0.001*		*0.002*		*-0.002*		*0.000*		*0.003*	
45-46 m	*0.002*	*0.002*	*0.000*	*0.005*	*0.002*	*0.002*	*0.002*	*0.005*	*-0.002*	*-0.002*	*-0.004*	*-0.001*	*0.007*	*0.003*	*0.002*	*0.000*
	0.000		*-0.001*		*0.000*		*0.003*		*-0.002*		*-0.003*		*0.006*		*0.002*	
	0.001		*-0.001*		*-0.001*		*0.003*		*-0.001*		*-0.003*		*0.006*		*0.000*	
	0.000		*-0.001*		*0.000*		*0.002*		*0.000*		*-0.004*		*0.007*		*0.000*	
	0.000		*-0.001*		*0.003*		*0.001*		*0.000*		*-0.003*		*0.007*		*0.004*	
40-41 m	*-0.001*	*0.004*	*-0.001*	0.007	*0.001*	*0.002*	0.009	*0.002*	*-0.002*	*-0.003*	*-0.002*	*0.001*	0.011	*0.006*	*0.002*	*0.000*
	0.000		*-0.001*		*-0.002*		*0.003*		*-0.002*		*0.002*		0.011		*0.001*	
	0.000		*-0.002*		*-0.001*		*0.004*		*-0.002*		*-0.002*		0.011		*0.001*	
	0.001		*-0.001*		*0.000*		0.006		*-0.002*		*-0.001*		0.012		*0.001*	
	0.000		*0.000*		*0.000*		0.010		*-0.001*		0.009		0.014		*0.003*	
35-36 m	*0.002*	*0.004*	*0.000*	0.011	*0.001*	*0.003*	*0.004*	*0.003*	*0.000*	*0.000*	*0.000*	*	0.015	0.011	*0.006*	*0.003*
	0.001		*0.001*		*0.004*		0.007		*0.000*		*-0.001*		0.015		*0.005*	
	0.001		*-0.001*		*0.002*		*0.004*		*-0.002*		*-0.002*		0.016		*0.005*	
	0.002		*-0.001*		*0.001*		*0.003*		*-0.001*		*-0.003*		0.014		*0.004*	
	0.002		*-0.001*		*0.000*		*0.003*		*-0.001*		*-0.003*		0.016		*0.005*	

30-31 m	*0.003*	0.006	*0.002*	0.009	0.011	*0.001*	*0.004*	*0.003*	*0.000*	*-0.002*	*-0.003*	*-0.001*	0.024	0.013	*0.010*	*0.007*
	0.001		*0.000*		*0.002*		*0.003*		*-0.002*		*-0.002*		0.025		*0.008*	
	0.002		*-0.001*		*0.001*		*0.003*		*0.000*		*-0.003*		0.025		*0.007*	
	0.001		*-0.001*		*0.002*		*0.003*		*0.000*		*-0.003*		0.024		*0.007*	
	0.001		*0.000*		*0.000*		*0.001*		*-0.001*		*-0.001*		0.024		*0.008*	
25-26 m	*0.004*	0.009	*0.001*	*0.004*	*0.004*	*0.003*	*0.005*	0.006	*0.001*	*-0.001*	*0.002*	*-0.002*	0.027	0.022	*0.013*	*0.009*
	0.004		*0.000*		*0.002*		0.006		*0.000*		*-0.003*		0.031		*0.012*	
	0.004		*0.001*		*0.002*		0.006		*0.000*		*-0.002*		0.031		*0.014*	
	0.006		*0.000*		*0.001*		0.006		*0.001*		*-0.002*		0.032		*0.011*	
	0.008		*0.004*		*0.003*		*0.005*		*0.001*		*-0.001*		0.031		*0.010*	
20-21 m	0.011	0.011	*0.004*	*0.003*	*0.003*	*0.005*	0.009	0.008	*0.000*	*0.002*	*0.004*	*0.000*	0.036	0.034	*0.013*	*0.015*
15-16 m	0.016	0.013	0.009	*0.004*	0.010	0.008	0.006	0.007	*0.003*	*0.003*	0.007	*0.001*	0.055	0.059	0.029	0.025
9½-10 m	0.068	0.051	0.019	0.022	0.021	0.035	0.023	0.019	0.045	0.038	0.020	0.021	0.140	0.094	0.084	0.061
9-9½ m	0.066	0.039	0.017	0.027	0.023	0.027	0.023	0.028	0.047	0.038	0.020	0.020	0.138	0.091	0.081	0.063
8½-9 m	0.067	0.041	0.016	0.033	0.018	0.028	0.023	0.024	0.068	0.042	0.021	0.018	0.155	0.103	0.097	0.091
8-8½ m	0.049	0.046	0.022	0.034	0.027	0.046	0.022	0.023	0.115	0.037	0.017	0.016	0.149	0.143	0.112	0.077
7½-8 m	0.048	0.051	0.014	0.024	0.028	0.040	0.029	0.028	0.186	0.040	0.023	0.019	0.150	0.145	0.114	0.079
7-7½ m	0.047	0.057	0.024	0.026	0.039	0.040	0.033	0.028	0.254	0.075	0.024	0.030	0.149	0.185	0.125	0.091
6½-7 m	0.056	0.048	0.022	0.027	0.067	0.036	0.030	0.027	0.209	0.057	0.034	0.030	0.159	0.182	0.145	0.104
6-6½ m	0.060	0.061	0.024	0.035	0.031	0.037	0.029	0.026	0.316	0.077	0.041	0.046	0.175	0.251	0.174	0.109
5½-6 m	0.060	0.072	0.028	0.028	0.028	0.036	0.030	0.019	0.202	0.185	0.040	0.075	0.195	0.422	0.174	0.136
5-5½ m	0.039	0.078	0.031	0.032	0.035	0.035	0.028	0.026	0.256	0.444	0.066	0.078	0.189	0.362	0.178	0.156
4½-5 m	0.040	0.077	0.033	0.026	0.038	0.036	0.032	0.028	0.278	0.660	0.090	0.081	0.238	0.498	0.222	0.180
4-4½ m	0.042	0.100	0.039	0.040	0.076	0.051	0.037	0.029	0.253	0.754	0.143	0.093	0.296	0.576	0.249	0.200
3½-4 m	0.050	0.093	0.054	0.042	0.074	0.070	0.027	0.036	0.274	0.781	0.117	0.072	0.501	0.772	0.298	0.249
3-3½ m	0.037	0.098	0.045	0.062	0.065	0.106	0.025	0.023	0.375	1.016	0.115	0.087	0.699	0.971	0.320	0.273
2½-3 m	0.041	0.102	0.067	0.083	0.107	0.133	0.027	0.026	0.518	1.245	0.095	0.132	0.769	1.217	0.399	0.297
2-2½ m	0.046	0.099	0.088	0.134	0.128	0.186	0.035	0.030	0.667	1.176	0.118	0.117	1.226	1.503	0.703	0.397
1½-2 m	0.048	0.097	0.165	0.139	0.108	0.125	0.033	0.040	0.866	1.640	0.261	0.133	2.022	2.379	0.681	0.741
1-1½ m	0.090	0.101	0.321	0.230	0.149	0.196	0.050	0.046	1.559	3.127	0.509	0.169	6.952	5.094	1.196	1.751
½-1 m	6.001	5.673	1.913	2.439	0.791	0.935	1.162	1.225	17.608	10.968	3.133	0.925	30.780	13.736	13.140	10.583

Annex 4 Airborne spray drift (% of applied spray volume per unit area) – passive measurement; ball shaped collectors

XR11004 spraying bare soil surface area

At 5 m distance from last nozzle

Height [m]	1		2		3		4		5	
	1	2	1	2	1	2	1	2	1	2
Threshold value	0.009		0.008		0.008		0.011		0.012	
10.0	0.013	0.029	0.030	0.014	0.092	0.035	0.050	0.031	0.187	0.198
9.5	0.024	0.032	0.032	0.013	0.097	0.048	0.046	0.049	0.168	0.193
9.0	0.019	0.031	0.043	0.024	0.107	0.023	0.082	0.043	0.419	0.298
8.5	0.057	0.039	0.058	0.032	0.112	0.084	0.051	0.087	0.412	0.357
8.0	0.072	0.054	0.073	0.041	0.066	0.172	0.041	0.063	0.401	0.535
7.5	0.083	0.054	0.061	0.089	0.140	0.199	0.094	0.091	0.784	0.449
7.0	0.067	0.077	0.135	0.107	0.135	0.252	0.075	0.078	0.913	0.745
6.5	0.069	0.070	0.078	0.058	0.217	0.211	0.169	0.121	0.880	0.880
6.0	0.072	0.079	0.159	0.128	0.136	0.203	0.153	0.214	0.587	0.485
5.5	0.120	0.131	0.189	0.233	0.284	0.181	0.274	0.202	0.683	0.779
5.0	0.145	0.199	0.107	0.222	0.444	0.316	0.267	0.265	0.598	0.779
4.5	0.165	0.167	0.145	0.419	0.328	0.319	0.220	0.276	0.614	0.900
4.0	0.261	0.402	0.600	0.319	0.419	0.430	0.436	0.285	1.333	0.947
3.5	0.289	0.474	0.296	0.365	0.576	0.624	0.397	0.381	1.134	1.350
3.0	0.433	0.467	0.253	0.349	0.467	0.831	0.598	0.714	1.187	1.340
2.5	0.703	0.794	0.545	0.975	0.582	0.878	0.717	0.723	1.152	1.117
2.0	0.962	1.054	0.636	0.595	0.529	1.032	1.197	0.733	1.592	0.563
1.5	1.610	3.225	0.277	1.489	0.880	1.056	1.237	1.047	1.390	1.700
1.0	2.193	4.110	1.424	1.065	0.966	0.981	1.666	1.293	1.812	1.355
0.5	2.187	3.183	1.094	2.413	1.677	1.359	1.200	0.827	1.274	2.281
0.0	2.611	2.120	1.672	2.600	1.352	0.897	1.246	0.891	0.665	0.844

At 10 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.008		0.008		0.011		0.012							
10.0	0.014	0.011	0.021	0.014	0.099	0.063	0.128	0.076	0.223	0.311						
9.5	0.008	0.011	0.016	0.022	0.061	0.040	0.146	0.135	0.293	0.205						
9.0	0.022	0.037	0.052	0.025	0.082	0.106	0.126	0.064	0.254	0.562						
8.5	0.024	0.033	0.049	0.058	0.039	0.071	0.144	0.198	0.483	0.314						
8.0	0.026	0.044	0.084	0.094	0.113	0.123	0.226	0.189	0.377	0.301						
7.5	0.054	0.045	0.044	0.103	0.144	0.147	0.155	0.213	0.763	0.403						
7.0	0.034	0.066	0.157	0.109	0.104	0.212	0.329	0.390	0.385	0.435						
6.5	0.065	0.042	0.212	0.153	0.174	0.227	0.408	0.329	0.512	0.656						
6.0	0.058	0.085	0.273	0.133	0.102	0.221	0.388	0.281	0.323	0.709						
5.5	0.073	0.144	0.283	0.165	0.115	0.287	0.654	0.254	0.640	0.374						
5.0	0.112	0.000	0.374	0.325	0.284	0.233	0.396	0.352	0.540	0.985						
4.5	0.236	0.203	0.305	0.498	0.330	0.293	0.570	0.476	0.430	0.585						
4.0	0.378	0.200	0.275	0.648	0.354	0.499	0.645	0.484	0.805	0.912						
3.5	0.831	0.562	0.658	0.491	0.251	0.397	0.724	0.582	0.906	0.827						
3.0	0.979	0.475	0.854	0.590	0.317	0.885	0.909	0.501	0.343	0.586						
2.5	0.736	1.436	0.668	0.693	0.294	0.959	0.705	0.986	0.688	1.009						
2.0	1.391	1.951	1.223	1.336	0.457	0.675	1.066	0.531	0.607	1.024						
1.5	2.152	1.309	1.176	1.306	0.411	0.769	1.136	0.692	0.702	1.092						
1.0	1.786	2.063	1.546	2.305	1.125	0.989	1.242	1.125	0.851	0.996						
0.5	2.182	2.025	1.548	2.101	0.544	1.564	0.799	0.524	0.789	1.097						
0.0	0.840	0.854	1.383	1.390	0.720	0.926	0.357	0.373	0.445	0.662						

At 15 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.008		0.008		0.011		0.012							
10.0	0.014	0.033	0.041	0.067	0.172	0.116	0.071	0.104	0.370	0.203						
9.5	0.036	0.035	0.052	0.082	0.126	0.080	0.077	0.123	0.222	0.240						
9.0	0.041	0.082	0.066	0.094	0.110	0.130	0.097	0.141	0.192	0.334						
8.5	0.035	0.060	0.169	0.137	0.139	0.141	0.077	0.153	0.417	0.165						
8.0	0.062	0.100	0.205	0.179	0.165	0.168	0.116	0.175	0.330	0.249						
7.5	0.051	0.047	0.122	0.158	0.184	0.096	0.092	0.119	0.443	0.297						
7.0	0.042	0.094	0.283	0.311	0.175	0.081	0.122	0.124	0.308	0.257						
6.5	0.059	0.111	0.202	0.290	0.114	0.105	0.324	0.289	0.428	0.408						
6.0	0.079	0.142	0.276	0.324	0.163	0.150	0.300	0.254	0.350	0.606						
5.5	0.107	0.159	0.249	0.324	0.186	0.201	0.487	0.379	0.474	0.449						
5.0	0.158	0.178	0.229	0.497	0.197	0.286	0.478	0.720	0.378	0.443						
4.5	0.115	0.380	0.432	0.397	0.317	0.184	0.470	0.520	0.592	0.771						
4.0	0.281	0.228	0.405	0.444	0.425	0.264	0.295	0.462	0.536	0.476						
3.5	0.192	0.426	0.600	0.255	0.379	0.316	0.636	0.587	0.517	0.395						
3.0	0.476	0.465	0.682	0.619	0.439	0.304	0.648	0.595	0.864	0.611						
2.5	0.529	0.825	0.710	0.684	0.376	0.317	0.952	0.709	0.698	0.448						
2.0	0.540	1.122	0.482	0.797	0.398	0.532	0.688	0.782	1.261	0.547						
1.5	1.053	1.659	0.629	0.954	0.718	0.500	0.722	0.572	0.684	1.027						
1.0	0.681	2.123	0.963	0.930	0.542	0.439	0.460	0.991	0.824	0.702						
0.5	1.163	1.571	0.693	1.231	0.410	1.073	0.435	0.911	0.591	0.691						
0.0	0.564	1.113	1.008	0.932	0.417	0.870	0.271	0.499	0.303	0.366						

At 25 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.008		0.008		0.011		0.012							
10.0	0.016	0.022	0.102	0.193	0.135	0.110	0.135	0.200	0.174	0.204						
9.5	0.008	0.028	0.199	0.215	0.209	0.096	0.189	0.208	0.364	0.285						
9.0	0.016	0.025	0.164	0.205	0.147	0.166	0.151	0.259	0.214	0.305						
8.5	0.030	0.056	0.115	0.119	0.163	0.131	0.306	0.211	0.406	0.143						
8.0	0.033	0.044	0.143	0.085	0.181	0.197	0.258	0.288	0.392	0.370						
7.5	0.057	0.037	0.100	0.076	0.176	0.168	0.518	0.364	0.394	0.351						
7.0	0.040	0.046	0.194	0.263	0.282	0.245	0.420	0.592	0.384	0.323						
6.5	0.074	0.053	0.272	0.318	0.298	0.230	0.440	0.342	0.251	0.411						
6.0	0.112	0.103	0.133	0.198	0.363	0.341	0.427	0.403	0.144	0.479						
5.5	0.121	0.065	0.252	0.224	0.263	0.262	0.265	0.322	0.201	0.226						
5.0	0.156	0.100	0.167	0.299	0.328	0.302	0.454	0.595	0.201	0.170						
4.5	0.199	0.148	0.128	0.221	0.259	0.493	0.401	0.443	0.277	0.389						
4.0	0.124	0.159	0.281	0.333	0.245	0.399	0.344	0.472	0.350	0.356						
3.5	0.198	0.206	0.466	0.240	0.197	0.383	0.340	0.590	0.426	0.382						
3.0	0.194	0.235	0.423	0.403	0.189	0.364	0.429	0.639	0.426	0.252						
2.5	0.367	0.335	0.659	0.769	0.373	0.303	0.592	0.578	0.501	0.598						
2.0	0.589	0.728	0.706	0.394	0.355	0.363	0.556	0.669	0.330	0.544						
1.5	0.471	0.725	0.512	0.921	0.263	0.603	0.918	0.626	0.510	0.408						
1.0	0.639	0.531	0.770	0.663	0.305	0.354	0.676	1.013	0.488	0.445						
0.5	0.737	0.553	0.824	0.811	0.547	0.271	0.550	0.612	0.329	0.586						
0.0	0.644	0.441	0.498	0.671	0.307	0.437	0.260	0.197	0.183	0.285						

At 35 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.008		0.008		0.011		0.011							
10.0	0.022	0.043	0.030	0.033	0.110	0.136	0.193	0.115	0.137	0.072						
9.5	0.010	0.038	0.015	0.037	0.123	0.165	0.223	0.189	0.180	0.142						
9.0	0.048	0.047	0.026	0.017	0.224	0.162	0.184	0.158	0.077	0.057						
8.5	0.022	0.039	0.020	0.024	0.133	0.220	0.239	0.216	0.129	0.119						
8.0	0.030	0.042	0.051	0.044	0.121	0.173	0.319	0.225	0.087	0.142						
7.5	0.089	0.059	0.042	0.026	0.168	0.213	0.299	0.383	0.135	0.187						
7.0	0.091	0.075	0.042	0.036	0.288	0.218	0.290	0.198	0.157	0.169						
6.5	0.176	0.078	0.067	0.073	0.236	0.288	0.249	0.211	0.232	0.114						
6.0	0.185	0.118	0.050	0.127	*	0.182	0.356	0.343	0.290	0.144						
5.5	0.190	0.179	0.082	0.066	0.262	0.192	0.297	0.201	0.333	0.151						
5.0	0.181	0.141	0.089	0.131	0.273	0.180	0.200	0.205	0.236	0.205						
4.5	0.307	0.094	0.147	0.205	0.397	0.220	0.398	0.333	0.171	0.214						
4.0	0.245	0.211	0.239	0.188	0.297	0.258	0.508	0.482	0.236	0.353						
3.5	0.187	0.183	0.149	0.268	0.420	0.163	0.502	0.323	0.208	0.184						
3.0	0.239	0.253	0.279	0.295	0.310	0.199	0.304	0.302	0.302	0.186						
2.5	0.216	0.176	0.441	0.398	0.307	0.195	0.298	0.420	0.253	0.209						
2.0	0.329	0.245	0.480	0.353	0.339	0.268	0.423	0.236	0.204	0.118						
1.5	0.429	0.457	0.398	0.349	0.501	0.237	0.225	0.434	0.158	0.253						
1.0	0.380	0.513	0.637	0.599	0.400	0.419	0.247	0.168	0.144	0.100						
0.5	0.258	0.619	0.784	0.570	0.538	0.486	0.151	0.161	0.134	0.180						
0.0	0.298	0.360	0.454	0.557	0.410	0.297	0.101	0.069	0.088	0.112						

At 50 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.008		0.007		0.011		0.011							
10.0	0.076	0.063	0.018	0.038	0.047	0.031	0.162	0.194	0.203	0.253						
9.5	0.087	0.072	0.042	0.036	0.038	0.048	0.135	0.205	0.382	0.143						
9.0	0.123	0.096	0.035	0.038	0.043	0.069	0.216	0.254	0.153	0.144						
8.5	0.150	0.093	0.053	0.050	0.082	0.078	0.325	0.311	0.431	0.332						
8.0	0.105	0.129	0.083	0.065	0.065	0.096	0.308	0.119	0.534	0.290						
7.5	0.161	0.182	0.047	0.087	0.179	0.082	0.214	0.162	0.311	0.330						
7.0	0.185	0.182	0.077	0.090	0.103	0.142	0.200	0.260	0.602	0.232						
6.5	0.164	0.220	0.052	0.077	0.197	0.232	0.233	0.254	0.247	0.312						
6.0	0.446	0.214	0.088	0.077	0.192	0.179	0.174	0.174	0.465	0.340						
5.5	0.353	0.264	0.081	0.054	0.171	0.326	0.212	0.322	0.405	0.243						
5.0	0.226	0.315	0.060	0.094	0.230	0.309	0.231	0.160	0.260	0.172						
4.5	0.324	0.440	0.084	0.065	0.295	0.454	0.150	0.158	0.398	0.228						
4.0	0.502	0.306	0.121	0.137	0.254	0.263	0.215	0.194	0.185	0.290						
3.5	0.289	0.436	0.145	0.152	0.303	0.339	0.210	0.136	0.180	0.193						
3.0	0.326	0.444	0.092	0.208	0.448	0.355	0.149	0.146	0.596	0.497						
2.5	0.453	0.487	0.175	0.169	0.326	0.430	0.147	0.101	0.209	0.242						
2.0	0.503	0.536	0.126	0.185	0.464	0.233	0.073	0.133	0.327	0.251						
1.5	0.649	0.675	0.231	0.120	0.470	0.433	0.085	0.170	0.238	0.328						
1.0	0.654	0.476	0.239	0.220	0.336	0.659	0.126	0.145	0.191	0.191						
0.5	0.651	0.719	0.214	0.222	0.435	0.413	0.095	0.072	0.111	0.181						
0.0	0.345	0.591	0.094	0.145	0.201	0.272	0.062	0.069	0.093	0.084						

XR11004 spraying an onion crop

At 5 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Threshold value	0.010		0.012		0.012		0.018		0.018		0.018		0.019		0.020	
10.0	0.421	0.637	0.245	0.130	0.134	0.200	0.198	0.093	0.108	0.105	0.018	*0.012*	*0.014*	0.027	0.060	0.119
9.5	0.441	0.595	0.204	0.224	0.100	0.359	0.181	0.160	0.103	0.117	*0.014*	0.018	*0.018*	0.031	0.107	0.125
9.0	0.271	0.440	0.225	0.239	0.341	0.565	0.177	0.103	0.090	0.113	0.020	0.019	*0.010*	0.030	0.156	0.138
8.5	0.726	0.642	0.254	0.277	0.474	0.662	0.230	0.090	0.133	0.167	*0.001*	0.031	*0.013*	0.034	0.193	0.501
8.0	0.677	0.843	0.369	0.199	0.610	0.752	0.238	0.162	0.236	0.131	*0.004*	0.034	0.021	0.020	0.480	0.634
7.5	0.253	0.557	0.340	0.315	0.542	0.603	0.235	0.147	0.104	0.172	0.031	0.028	*0.011*	0.034	0.485	1.230
7.0	0.413	1.205	0.522	0.343	0.473	0.681	0.298	0.207	0.148	0.182	0.047	0.024	0.022	*0.018*	1.360	2.236
6.5	0.731	0.499	0.610	0.590	0.638	0.772	0.360	0.324	0.145	0.199	0.059	0.038	*0.015*	0.037	1.478	3.186
6.0	0.576	1.235	0.521	0.485	0.515	0.629	*	0.461	0.184	0.253	0.059	0.124	0.043	0.058	2.588	3.194
5.5	0.967	1.384	0.664	0.649	0.440	0.558	0.904	0.501	0.168	0.283	0.115	0.247	0.040	0.165	2.353	3.580
5.0	1.161	1.190	1.167	0.708	0.951	1.372	1.006	0.544	0.306	0.490	0.112	0.140	0.053	0.148	3.725	2.598
4.5	1.229	1.630	1.575	0.993	1.574	2.078	1.028	0.929	0.536	0.412	0.079	0.130	0.129	0.303	5.069	5.018
4.0	0.738	2.376	1.990	1.301	1.407	1.304	1.566	0.935	0.664	0.439	0.317	0.363	0.484	0.520	5.440	6.546
3.5	1.757	2.335	2.947	2.774	2.092	1.936	1.697	1.346	0.911	0.697	0.297	0.601	0.534	0.638	5.109	5.782
3.0	1.480	0.950	2.814	2.689	1.666	1.656	1.401	1.079	1.189	0.798	0.607	0.621	0.859	1.062	6.405	8.857
2.5	2.141	2.222	3.369	4.207	1.580	1.391	1.390	0.944	1.498	0.775	0.536	0.668	0.779	1.309	7.674	9.539
2.0	1.342	3.008	2.244	2.814	1.364	1.933	1.637	1.492	1.474	1.233	1.320	1.719	0.742	1.344	10.357	8.339
1.5	2.013	3.501	1.881	2.331	2.723	2.129	3.123	1.841	1.321	2.065	2.036	1.678	0.852	1.508	12.036	10.432
1.0	2.795	2.541	1.729	1.990	2.052	2.065	6.827	4.169	3.742	3.109	2.211	4.026	1.569	2.295	16.700	12.785
0.5	2.385	2.168	1.763	1.753	1.274	1.615	8.917	3.371	4.591	4.441	4.172	3.817	1.942	3.194	19.314	16.687
0.0	1.484	2.719	1.066	1.458	1.215	0.855	5.800	2.270	5.433	3.724	4.531	3.003	2.778	3.264	19.929	10.897

At 10 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.010		0.012		0.012		0.018		0.018		0.018		0.019		0.019	
10.0	0.317	0.270	0.101	0.238	0.264	0.174	0.094	0.100	0.087	0.081	0.026	0.023	*0.012*	0.028	0.422	0.461
9.5	0.594	0.299	0.133	0.232	0.243	0.318	0.098	0.063	0.167	0.095	0.047	0.019	*0.009*	0.028	0.351	0.446
9.0	1.031	0.438	0.184	0.219	0.282	0.368	0.088	0.113	0.089	0.102	*0.015*	0.028	*0.008*	0.066	0.712	0.614
8.5	0.408	0.310	0.220	0.183	0.239	0.421	0.116	0.155	0.117	0.202	0.021	0.023	0.025	0.046	0.435	1.537
8.0	0.795	1.117	0.250	0.221	0.168	0.350	0.176	0.135	0.084	0.207	0.019	*0.017*	*0.009*	*0.018*	0.872	1.441
7.5	0.609	0.678	0.211	0.616	0.325	0.780	0.189	0.204	0.210	0.235	0.025	0.029	0.016	0.036	1.308	1.541
7.0	0.827	0.917	0.370	0.491	0.809	0.854	0.238	0.250	0.173	0.230	0.029	0.037	0.027	0.035	2.126	1.796
6.5	0.769	0.595	0.498	0.451	0.517	0.580	0.329	0.219	0.217	0.272	0.046	0.103	0.036	0.038	2.349	1.670
6.0	1.124	0.733	0.659	0.555	0.867	0.515	0.319	0.316	0.266	0.318	0.097	0.111	0.049	0.077	3.899	3.522
5.5	1.163	0.992	0.450	0.575	0.549	0.647	0.607	0.264	0.445	0.340	0.132	0.121	0.135	0.105	4.733	3.146
5.0	0.610	1.364	0.667	0.547	1.105	1.042	0.771	0.480	0.571	0.426	0.178	0.301	0.283	0.201	5.887	7.277
4.5	0.301	1.251	0.463	0.596	0.609	0.786	0.699	0.724	0.819	0.766	0.140	0.310	0.252	0.585	4.164	6.009
4.0	0.695	0.432	0.472	0.457	1.233	1.204	1.311	0.715	1.132	0.644	0.176	0.187	0.443	0.698	2.433	4.853
3.5	0.463	0.946	0.538	0.652	0.772	1.387	2.242	0.995	0.716	0.908	0.323	0.372	0.670	0.960	4.617	5.727
3.0	1.499	0.889	0.611	0.567	1.708	1.047	1.423	0.799	1.004	1.184	0.504	0.700	0.818	0.812	6.485	4.882
2.5	1.127	0.806	0.353	0.912	1.133	0.967	1.385	1.247	0.993	1.229	0.678	0.793	1.007	0.508	8.664	6.048
2.0	0.614	0.919	0.543	0.586	1.946	1.694	1.753	1.510	1.039	1.412	0.842	1.607	0.893	0.933	9.048	6.525
1.5	1.509	2.211	0.718	0.723	1.677	2.289	2.191	1.963	1.099	1.277	1.389	1.364	1.343	1.044	7.720	5.230
1.0	1.980	1.645	0.592	0.877	1.750	2.005	1.224	2.988	1.531	1.188	1.443	1.596	1.155	1.379	9.155	4.874
0.5	1.889	1.686	0.684	0.600	1.421	1.992	3.752	2.902	1.385	1.632	1.881	1.634	1.153	2.302	9.883	10.650
0.0	0.791	1.180	0.512	0.464	0.787	0.925	1.479	1.582	1.224	1.544	1.525	1.810	1.397	1.478	10.883	8.041

At 15 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.010		0.012		0.012		0.018		0.016		0.017		0.020		0.019	
10.0	0.585	0.255	0.483	0.287	0.252	0.376	0.259	0.212	0.082	0.106	0.033	*0.008*	0.020	*0.018*	0.388	0.610
9.5	0.327	0.333	0.499	0.239	0.367	0.379	0.399	0.253	0.099	0.125	0.027	*0.011*	*0.015*	*0.014*	0.675	1.027
9.0	0.202	0.417	0.294	0.293	0.241	0.417	0.386	0.229	0.118	0.126	0.037	*0.015*	*0.017*	*0.017*	0.766	1.127
8.5	0.505	0.391	0.554	0.415	0.367	0.701	0.320	0.367	0.130	0.130	0.030	0.031	0.034	0.022	1.071	0.869
8.0	0.536	0.679	0.234	0.268	0.394	0.581	0.588	0.382	0.139	0.125	0.057	0.049	*0.019*	0.023	2.145	1.585
7.5	0.354	0.369	0.313	0.487	0.295	0.436	1.182	0.522	0.188	0.079	0.030	0.025	0.023	0.036	2.593	1.655
7.0	0.776	0.458	0.437	0.535	0.283	0.929	0.693	0.680	0.217	0.173	0.038	0.045	0.031	0.070	2.896	2.905
6.5	0.792	1.028	0.462	0.516	0.399	0.794	0.742	0.391	0.190	0.206	0.052	0.103	0.035	0.046	4.225	3.711
6.0	0.553	0.866	0.658	0.339	0.917	0.878	0.540	0.456	0.252	0.212	0.096	0.055	0.171	0.060	3.142	3.546
5.5	0.839	0.768	0.554	0.606	0.708	0.767	0.618	0.407	0.389	0.399	0.089	0.128	0.161	0.086	4.429	4.203
5.0	0.730	0.702	0.622	0.640	0.941	1.142	1.102	0.693	0.518	0.402	0.167	0.122	0.195	0.195	4.555	5.655
4.5	1.117	1.233	0.778	0.560	1.005	0.564	1.304	0.930	0.431	0.439	0.201	0.239	0.251	0.427	4.752	3.718
4.0	1.282	1.124	0.684	0.929	1.028	0.696	1.648	1.501	0.466	0.502	0.268	0.165	0.442	0.415	5.759	7.843
3.5	1.999	1.113	0.547	0.888	1.215	1.276	2.213	0.951	0.526	0.644	0.338	0.541	0.457	0.537	5.386	7.731
3.0	1.923	1.524	0.675	0.796	0.745	1.127	3.034	0.950	0.624	0.533	0.634	0.607	0.468	0.480	6.798	7.631
2.5	1.688	1.312	0.851	0.766	1.006	1.222	2.882	1.435	0.612	0.408	0.709	0.809	0.715	0.540	6.444	5.087
2.0	1.520	2.030	0.292	0.591	1.944	1.559	1.619	1.891	0.945	0.774	0.619	1.187	0.820	0.538	6.544	7.854
1.5	2.039	1.199	0.483	0.533	1.530	1.646	1.947	2.940	1.048	1.004	1.056	0.858	0.994	1.083	5.189	4.303
1.0	2.185	1.023	0.659	0.618	1.563	1.410	2.579	2.997	0.977	1.157	1.312	1.224	1.746	1.589	5.603	8.259
0.5	1.220	0.780	0.571	0.615	1.985	1.350	2.941	2.940	0.912	1.099	1.865	1.226	1.493	1.852	7.166	4.723
0.0	1.188	0.987	0.549	0.416	0.919	1.055	2.388	1.832	0.467	0.567	0.950	0.717	1.136	1.100	6.382	3.465

At 25 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.010		0.012		0.012		0.018		0.016		0.018		0.020		0.019	
10.0	0.467	0.389	0.466	0.333	0.307	0.264	1.300	0.683	0.110	0.124	0.018	0.020	0.038	0.044	0.748	0.880
9.5	0.560	0.441	0.159	0.217	0.395	0.411	1.157	0.664	0.140	0.149	0.027	*0.016*	0.044	0.030	0.754	1.355
9.0	0.598	0.666	0.432	0.332	0.370	0.245	1.343	0.545	0.120	0.069	*0.015*	0.034	0.026	0.048	1.649	1.127
8.5	0.403	0.627	0.363	0.537	0.426	0.488	1.611	0.692	0.095	0.111	0.050	0.047	0.042	0.058	1.553	1.341
8.0	1.057	0.689	0.275	0.521	0.421	0.391	1.621	0.618	0.120	0.110	0.038	0.029	0.025	0.043	1.109	1.002
7.5	0.728	0.694	0.393	0.220	0.326	0.617	1.791	0.712	0.125	0.150	0.051	0.045	0.021	0.035	1.955	1.531
7.0	0.601	0.852	0.467	0.334	0.485	0.279	1.016	0.949	0.086	0.240	0.064	0.064	0.038	0.028	1.549	1.572
6.5	0.861	0.669	0.532	0.330	0.834	0.601	1.511	0.562	0.132	0.243	0.071	0.088	0.030	0.061	2.220	2.098
6.0	0.375	0.593	0.661	0.504	0.897	0.439	1.875	2.259	0.188	0.242	0.075	0.138	0.051	0.093	3.011	2.261
5.5	0.541	0.758	0.430	0.614	0.905	0.504	1.618	1.366	0.311	0.329	0.237	0.148	0.194	0.156	4.203	2.952
5.0	0.924	1.020	0.701	0.722	0.850	0.924	1.745	0.806	0.193	0.332	0.179	0.301	0.095	0.184	3.441	3.316
4.5	0.807	0.908	0.558	0.867	1.191	0.684	1.844	1.612	0.354	0.367	0.276	0.374	0.205	0.144	4.204	2.642
4.0	0.772	1.348	0.808	0.841	0.963	0.770	1.957	2.087	0.473	0.346	0.378	0.335	0.219	0.215	2.749	4.527
3.5	1.068	1.113	0.519	0.421	0.919	0.795	2.095	1.550	0.360	0.443	0.546	0.431	0.416	0.351	4.021	3.712
3.0	1.434	1.368	0.384	0.461	1.240	0.876	2.936	2.205	0.501	0.659	0.650	0.650	0.542	0.158	5.643	4.743
2.5	1.415	1.670	0.311	0.732	1.257	0.782	1.699	2.009	0.777	0.630	0.580	0.967	0.493	0.465	6.950	6.022
2.0	2.188	1.062	0.505	0.777	1.092	0.987	2.487	1.409	0.723	0.951	0.705	0.581	0.756	0.361	6.943	3.198
1.5	1.207	1.117	0.533	0.588	1.567	1.384	2.880	1.807	1.191	0.920	0.733	1.377	0.853	0.544	6.836	7.948
1.0	1.384	1.004	0.713	0.813	1.609	0.950	3.509	1.616	1.199	0.835	0.938	0.905	0.862	1.054	6.993	4.807
0.5	1.338	0.796	0.577	0.477	1.343	1.332	2.820	1.795	0.722	1.031	1.044	1.152	0.970	0.719	4.992	5.313
0.0	0.943	0.848	0.442	0.353	0.784	0.537	1.192	0.942	0.806	1.260	0.712	0.588	0.474	0.488	4.419	4.070

At 35 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.010		0.012		0.012		0.018		0.016		0.017		0.020		0.019	
10.0	0.564	0.387	0.534	0.517	0.197	0.272	0.939	1.063	0.061	0.088	0.025	*0.016*	0.034	0.039	0.940	0.955
9.5	0.525	0.575	0.571	0.518	0.251	0.344	0.864	0.839	0.068	0.071	0.041	*0.012*	0.050	0.050	1.831	0.977
9.0	1.019	0.642	0.525	0.548	0.423	0.426	0.500	0.631	0.130	0.098	0.036	0.043	0.026	0.034	1.495	0.995
8.5	0.536	0.513	0.486	0.322	0.567	0.535	0.537	0.882	0.194	0.078	0.037	0.043	0.068	0.042	1.637	1.942
8.0	1.106	0.584	0.400	0.306	0.316	0.584	0.747	0.553	0.286	0.164	0.061	0.036	0.045	0.087	1.953	1.578
7.5	0.780	0.391	0.309	0.722	0.405	0.429	0.494	0.672	0.180	0.277	0.102	0.041	0.064	0.116	2.150	1.244
7.0	0.550	0.443	0.489	0.565	0.179	0.345	0.625	0.582	0.243	0.187	0.074	0.064	0.065	0.127	2.182	2.108
6.5	1.221	0.400	0.627	0.522	0.643	0.391	0.893	0.809	0.123	0.204	0.103	0.092	0.097	0.131	1.625	1.773
6.0	0.656	0.645	0.508	0.543	*	0.400	0.676	0.661	0.217	0.170	0.133	0.050	0.217	0.182	2.326	1.876
5.5	0.731	1.066	0.446	0.883	0.550	0.323	1.167	1.131	0.128	0.241	0.122	0.073	0.160	0.227	2.667	2.009
5.0	1.259	1.059	0.520	0.746	0.525	0.564	0.871	0.961	0.288	0.386	0.127	0.207	0.170	0.281	3.712	2.889
4.5	0.987	0.475	0.679	0.775	0.531	0.458	1.813	0.990	0.309	0.289	0.145	0.314	0.269	0.296	2.149	2.316
4.0	1.104	0.813	0.478	0.851	0.859	0.761	0.757	1.173	0.339	0.365	0.288	0.407	0.277	0.424	4.474	2.110
3.5	1.428	1.386	0.616	0.590	0.555	0.612	2.184	1.692	0.299	0.356	0.211	0.416	0.216	0.240	3.264	3.185
3.0	0.858	1.223	0.572	0.432	0.566	0.545	1.172	1.257	0.212	0.498	0.364	0.523	0.469	0.183	4.456	3.759
2.5	1.699	1.711	0.520	0.603	0.822	1.094	1.457	1.216	0.248	0.405	0.480	0.321	0.443	0.494	2.769	3.817
2.0	0.942	1.892	0.618	0.616	0.609	1.505	0.959	1.640	0.504	0.280	0.500	0.452	0.392	0.686	3.105	3.570
1.5	1.918	1.542	0.605	0.422	0.659	1.091	0.972	1.709	0.475	0.458	0.409	0.808	0.410	0.471	3.744	2.333
1.0	1.038	1.564	0.734	0.470	1.303	1.177	0.882	1.120	0.669	0.536	0.899	0.659	0.736	0.680	3.724	3.087
0.5	1.158	0.924	0.614	0.509	0.411	0.677	0.376	1.118	0.398	0.511	0.916	0.636	0.467	0.640	3.332	4.333
0.0	0.760	0.666	0.451	0.316	0.773	0.764	0.266	0.481	0.435	0.366	0.519	0.641	0.327	0.416	2.883	2.416

At 50 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.010		0.012		0.012		0.017		0.016		0.017		0.020		0.019	
10.0	0.420	0.686	0.262	0.187	0.118	0.112	0.221	0.298	0.192	0.175	0.022	0.044	0.029	0.093	0.738	0.833
9.5	0.300	0.446	0.328	0.317	0.101	0.110	0.141	0.358	0.129	0.152	0.043	0.037	0.056	0.086	0.934	0.501
9.0	0.291	0.766	0.184	0.254	0.112	0.075	0.161	0.296	0.177	0.169	*0.015*	0.055	0.123	0.090	0.629	0.810
8.5	0.434	0.435	0.236	0.481	0.140	0.078	0.160	0.195	0.264	0.192	0.034	0.025	0.190	0.094	1.034	0.636
8.0	0.426	0.586	0.159	0.189	0.163	0.036	0.191	0.283	0.232	0.213	0.019	0.036	0.110	0.096	0.786	0.777
7.5	0.372	0.724	0.292	0.370	0.146	0.064	0.161	0.219	0.349	0.285	0.047	0.060	0.146	0.135	1.128	0.869
7.0	0.402	0.351	0.287	0.469	0.160	0.062	0.121	0.412	0.467	0.212	0.105	0.062	0.151	0.243	1.087	0.547
6.5	0.496	0.666	0.432	0.568	0.060	0.092	0.149	0.214	0.219	0.275	0.129	0.063	0.144	0.203	1.505	1.279
6.0	0.803	0.529	0.334	0.204	0.199	0.107	0.112	0.235	0.259	0.518	0.143	0.127	0.231	0.186	1.695	0.506
5.5	0.950	0.644	0.272	0.446	0.168	0.207	0.133	0.334	0.417	0.387	0.110	0.157	0.291	0.237	1.541	1.594
5.0	0.556	0.922	0.444	0.295	0.198	0.074	0.126	0.287	0.484	0.506	0.042	0.162	0.280	0.295	2.216	0.963
4.5	0.610	0.579	0.527	0.476	0.209	0.131	0.131	0.304	0.277	0.437	0.159	0.203	0.328	0.267	1.611	0.966
4.0	0.320	0.880	0.292	0.313	0.213	0.402	0.201	0.304	0.339	0.593	0.151	0.209	0.244	0.271	1.340	1.796
3.5	0.609	0.783	0.217	0.274	0.420	0.391	0.181	0.364	0.664	1.088	0.279	0.369	0.449	0.369	1.526	1.768
3.0	0.746	1.028	0.285	0.339	0.290	0.418	0.105	0.315	0.395	0.859	0.306	0.391	0.583	0.515	1.448	1.634
2.5	0.659	0.618	0.519	0.432	0.543	0.433	0.181	0.209	0.782	0.833	0.284	0.458	0.553	0.508	2.226	1.781
2.0	0.515	0.771	0.159	0.196	0.499	0.191	0.257	0.284	0.436	0.634	0.214	0.436	0.403	0.457	1.168	2.646
1.5	0.620	0.828	0.301	0.432	0.421	0.152	0.163	0.245	0.466	0.885	0.352	0.502	0.688	0.472	2.086	1.142
1.0	0.873	0.661	0.237	0.238	0.363	0.263	0.205	0.201	0.742	0.850	0.504	0.561	0.363	0.394	1.991	2.199
0.5	0.811	0.767	0.365	0.379	0.304	0.408	0.088	0.152	0.611	0.781	0.526	0.297	0.535	0.399	2.175	1.154
0.0	0.541	0.353	0.220	0.180	0.243	0.416	0.051	0.135	0.438	0.576	0.384	0.526	0.289	0.244	1.510	1.091

XLTD11004 spraying bare soil surface area

At 5 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.008		0.008		0.012									
10.0	*-0.001*	*0.000*	*0.001*	*-0.004*	0.021	0.023	0.042	*0.022*								
9.5	*0.000*	*0.001*	*0.003*	*0.000*	0.027	0.023	0.036	*0.046*								
9.0	*0.007*	*0.002*	*0.001*	*-0.003*	0.018	0.025	0.042	*0.018*								
8.5	*0.001*	*0.008*	*0.002*	*0.001*	0.028	0.023	0.062	*0.043*								
8.0	*0.002*	*0.007*	0.009	*0.002*	0.011	0.048	0.030	*0.033*								
7.5	0.010	*0.002*	*0.007*	*0.005*	0.017	0.028	0.043	*0.049*								
7.0	*0.001*	*0.002*	*0.008*	*0.007*	0.037	0.019	0.059	*0.048*								
6.5	*0.004*	*0.003*	*0.005*	0.008	0.017	0.042	0.021	*0.049*								
6.0	*0.003*	0.012	0.009	*0.000*	0.032	0.059	0.041	*0.050*								
5.5	*0.008*	*0.008*	*0.002*	*0.006*	0.039	0.088	0.039	*0.038*								
5.0	0.012	0.014	*0.005*	0.011	0.051	0.072	0.038	*0.040*								
4.5	0.034	0.031	*0.006*	0.011	0.172	0.093	0.059	*0.057*								
4.0	0.026	0.010	0.016	0.014	0.131	0.160	0.064	*0.047*								
3.5	0.029	0.028	0.019	0.026	0.293	0.209	0.056	*0.047*								
3.0	0.042	0.022	0.034	0.046	0.223	0.190	0.070	*0.052*								
2.5	0.060	0.038	0.053	0.047	0.317	0.145	0.109	*0.053*								
2.0	0.074	0.046	0.072	0.069	0.339	0.164	0.067	0.089								
1.5	0.081	0.066	0.094	0.174	0.282	0.274	0.102	0.084								
1.0	0.155	0.125	0.121	0.099	0.324	0.272	0.105	0.109								
0.5	0.161	0.174	0.216	0.205	0.429	0.392	0.142	0.126								
0.0	0.082	0.084	0.160	0.196	0.741	0.593	0.047	0.084								

At 10 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.008		0.008		0.012									
10.0	*0.006*	*0.002*	*0.006*	*0.001*	0.027	0.013	0.057	0.042								
9.5	*0.006*	*0.007*	*0.006*	*0.003*	0.022	0.037	0.061	*0.004*								
9.0	*0.004*	*0.003*	0.011	*0.003*	0.025	0.020	0.033	0.015								
8.5	*0.003*	*0.006*	*0.003*	*0.003*	0.036	0.035	0.015	0.034								
8.0	*0.005*	*0.002*	0.008	0.019	0.025	0.026	0.033	0.025								
7.5	*0.005*	*0.001*	0.012	*0.003*	0.027	0.012	0.029	0.025								
7.0	*0.004*	*0.005*	0.009	*0.006*	0.030	0.034	0.033	0.041								
6.5	*0.008*	*0.008*	*0.003*	0.013	0.065	0.014	0.057	0.036								
6.0	0.023	0.016	0.009	0.010	0.046	0.030	0.067	0.026								
5.5	0.033	0.031	*0.008*	*0.005*	0.086	0.085	0.057	0.041								
5.0	0.025	0.033	0.021	*0.007*	0.142	0.130	0.065	0.043								
4.5	0.026	0.029	0.016	0.009	0.104	0.117	0.085	0.068								
4.0	0.049	0.018	0.019	0.027	0.137	0.157	0.070	0.056								
3.5	0.045	0.021	0.031	0.021	0.128	0.195	0.035	0.049								
3.0	0.069	0.029	0.018	0.029	0.221	0.220	0.039	0.067								
2.5	0.063	0.058	0.046	0.032	0.160	0.306	0.071	0.075								
2.0	0.065	0.047	0.025	0.034	0.324	0.201	0.065	0.060								
1.5	0.091	0.062	0.046	0.047	0.301	0.271	0.051	0.052								
1.0	0.123	0.099	0.083	0.055	0.312	0.382	0.094	0.059								
0.5	0.104	0.127	0.067	0.086	0.394	0.198	0.110	0.092								
0.0	0.110	0.120	0.057	0.095	0.310	0.202	0.071	0.063								

At 15 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.008		0.008		0.011									
10.0	0.012	0.009	0.010	*-0.003*	0.023	0.026	0.020	0.021								
9.5	0.011	0.012	*0.005*	*0.004*	0.036	0.022	0.021	0.026								
9.0	0.011	0.014	*-0.003*	*0.001*	0.019	0.025	0.025	0.012								
8.5	0.018	0.009	*0.007*	*0.004*	0.032	0.021	0.021	0.016								
8.0	0.014	0.025	*0.005*	*0.000*	0.025	0.033	0.036	0.023								
7.5	0.035	0.015	0.008	0.009	0.046	0.031	0.025	0.025								
7.0	0.015	0.020	*0.001*	*0.007*	0.013	0.044	0.035	0.022								
6.5	0.021	0.022	*0.004*	0.010	0.029	0.062	0.032	0.018								
6.0	0.031	0.022	*0.003*	*0.002*	0.026	0.061	0.034	*0.009*								
5.5	0.056	0.026	0.014	*0.003*	0.037	0.053	0.032	0.019								
5.0	0.047	0.038	0.009	0.020	0.046	0.070	0.026	0.025								
4.5	0.058	0.047	0.034	0.027	0.066	0.068	0.042	0.024								
4.0	0.039	0.049	0.024	0.025	0.064	0.092	0.055	0.023								
3.5	0.053	0.049	0.039	0.009	0.102	0.148	0.045	0.048								
3.0	0.058	0.074	0.025	0.016	0.132	0.142	0.048	0.039								
2.5	0.066	0.072	0.023	0.022	0.236	0.143	0.049	0.045								
2.0	0.086	0.085	0.029	0.035	0.209	0.189	0.039	0.031								
1.5	0.073	0.073	0.024	0.022	0.175	0.344	0.061	0.035								
1.0	0.107	0.156	0.049	0.049	0.294	0.355	0.075	0.063								
0.5	0.165	0.089	0.054	0.063	0.317	0.257	0.073	0.039								
0.0	0.096	0.087	0.069	0.056	0.344	0.285	0.030	0.031								

At 25 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.008		0.007		0.011									
10.0	0.009	0.014	*0.000*	*0.000*	0.032	0.032	0.023	0.045								
9.5	0.015	0.019	*0.006*	*0.002*	0.034	0.009	0.034	0.030								
9.0	0.014	0.010	*0.000*	*0.002*	0.025	w0.017	0.044	0.028								
8.5	*0.005*	0.025	*0.004*	*0.006*	0.031	0.022	0.034	0.038								
8.0	0.025	0.020	*0.003*	0.009	0.034	0.029	0.034	0.047								
7.5	*0.008*	0.014	0.013	0.009	0.042	0.041	0.030	0.054								
7.0	0.019	0.016	*0.008*	*0.008*	0.068	0.020	0.041	0.035								
6.5	0.020	0.024	*0.003*	*0.004*	0.034	0.049	0.047	0.046								
6.0	0.030	0.025	0.012	0.012	0.042	0.073	0.047	0.056								
5.5	0.048	0.028	0.010	0.018	0.083	0.071	0.037	0.051								
5.0	0.041	0.040	0.020	0.011	0.065	0.082	0.057	0.057								
4.5	0.026	0.032	0.023	0.024	0.055	0.087	0.059	0.048								
4.0	0.035	0.033	0.017	0.019	0.086	0.068	0.051	0.030								
3.5	0.041	0.017	0.024	0.029	0.076	0.087	0.052	0.054								
3.0	0.032	0.045	0.022	0.018	0.089	0.050	0.039	0.088								
2.5	0.073	0.054	0.057	0.040	0.071	0.042	0.045	0.083								
2.0	0.065	0.072	0.033	0.031	0.101	0.099	0.050	0.066								
1.5	0.073	0.088	0.067	0.049	0.126	0.056	0.037	0.070								
1.0	0.094	0.115	0.066	0.058	0.150	0.115	0.066	0.068								
0.5	0.083	0.076	0.049	0.053	0.133	0.079	0.042	0.052								
0.0	0.072	0.128	0.040	0.054	0.138	0.115	0.023	0.033								

At 35 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.008		0.007		0.011									
10.0	0.015	0.010	*0.003*	*0.002*	0.029	0.033	0.043	0.029								
9.5	0.013	0.013	*0.001*	*0.003*	0.063	0.022	0.016	0.042								
9.0	0.009	0.010	*0.000*	*0.000*	0.023	0.023	0.028	0.015								
8.5	0.018	*0.007*	*0.004*	*0.002*	0.049	0.028	0.048	0.018								
8.0	0.016	0.016	*0.005*	*0.003*	0.069	0.050	0.037	*0.007*								
7.5	0.025	0.009	*0.001*	*0.002*	0.058	0.038	0.050	0.015								
7.0	0.029	0.015	*0.003*	0.010	0.066	0.054	0.065	0.033								
6.5	0.034	0.021	*0.001*	*0.006*	0.059	0.069	0.044	0.042								
6.0	0.015	0.038	*-0.001*	0.012	0.095	0.056	0.035	0.022								
5.5	0.026	0.029	*0.003*	0.014	0.073	0.049	0.051	0.036								
5.0	0.040	0.033	*0.006*	0.013	0.062	0.092	0.030	0.033								
4.5	0.042	0.052	0.009	0.014	0.067	0.074	0.048	0.028								
4.0	0.038	0.033	0.010	0.024	0.102	0.057	0.050	0.031								
3.5	0.061	0.047	0.012	0.019	0.114	0.051	0.040	0.036								
3.0	0.041	0.039	0.009	0.029	0.143	0.086	0.045	0.050								
2.5	0.073	0.051	0.021	0.030	0.065	0.067	0.052	0.050								
2.0	0.083	0.047	0.025	0.039	0.061	0.045	0.051	0.076								
1.5	0.075	0.075	0.016	0.048	0.114	0.060	0.079	0.058								
1.0	0.101	0.072	0.030	0.046	0.062	0.125	0.041	0.073								
0.5	0.140	0.091	0.043	0.045	0.102	0.140	0.022	0.040								
0.0	0.094	0.090	0.043	0.037	0.054	0.089	0.021	0.046								

At 50 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.008		0.008		0.011									
10.0	0.009	0.026	*0.000*	*-0.001*	0.012	0.023	0.019	0.022								
9.5	*0.008*	0.013	*0.001*	*0.007*	0.013	0.023	0.019	*0.011*								
9.0	0.014	0.022	*0.003*	*0.003*	0.030	0.017	0.032	0.020								
8.5	0.010	0.013	*0.005*	*0.002*	0.029	0.037	*0.010*	0.012								
8.0	0.019	0.019	*0.001*	*0.005*	0.026	0.029	*0.008*	0.024								
7.5	0.019	0.016	*0.000*	*-0.001*	0.037	0.055	0.022	0.026								
7.0	0.019	0.015	*0.000*	*0.005*	0.043	0.017	0.028	0.020								
6.5	0.021	0.028	*0.004*	0.009	0.035	0.043	0.022	0.019								
6.0	0.017	0.012	*0.004*	*0.003*	0.041	0.023	0.023	0.028								
5.5	0.032	0.030	*0.007*	*0.003*	0.037	0.046	0.027	0.022								
5.0	0.028	0.037	*0.005*	*0.008*	0.040	0.063	0.021	0.020								
4.5	0.039	0.033	*0.001*	*0.002*	0.048	0.070	0.036	0.024								
4.0	0.039	0.049	0.011	0.010	0.037	0.041	0.047	0.023								
3.5	0.036	0.047	0.013	0.013	0.038	0.075	0.032	0.017								
3.0	0.041	0.071	0.018	0.023	0.043	0.079	0.046	0.034								
2.5	0.054	0.068	0.022	0.016	0.050	0.090	0.053	0.017								
2.0	0.064	0.067	0.011	0.010	0.072	0.052	0.036	0.021								
1.5	0.063	0.061	0.028	0.024	0.075	0.070	0.046	0.031								
1.0	0.050	0.057	0.024	0.024	0.095	0.085	0.038	0.020								
0.5	0.050	0.066	0.031	0.041	0.076	0.087	0.039	0.024								
0.0	0.045	0.063	0.028	0.030	0.048	0.053	0.021	0.019								

XLTD11004 spraying an onion crop

At 5 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.012		0.011		0.013		0.018		0.020		0.019		0.019	
10.0	0.060	0.047	0.065	0.035	0.130	0.193	0.082	0.080	0.026	0.064	0.046	0.064	0.046	0.023	0.024	0.028
9.5	0.062	0.060	0.044	0.047	0.097	0.348	0.079	0.089	0.025	0.058	0.022	0.039	0.048	0.026	*0.008*	*0.018*
9.0	0.093	0.075	0.056	0.036	0.330	0.547	0.068	0.086	0.070	0.037	0.051	0.026	0.037	*0.019*	0.026	0.055
8.5	0.135	0.055	0.079	0.057	0.459	0.641	0.101	0.127	0.031	0.073	0.030	0.067	0.036	0.046	0.032	0.048
8.0	0.153	0.131	0.064	0.036	0.590	0.728	0.180	0.100	0.028	0.078	0.054	0.102	0.060	0.043	0.026	0.061
7.5	0.162	0.105	0.055	0.042	0.525	0.584	0.079	0.131	0.069	0.054	0.087	0.077	0.076	0.049	0.042	0.094
7.0	0.186	0.182	0.088	0.069	0.458	0.659	0.113	0.138	0.062	0.067	0.054	0.075	0.057	0.043	0.036	0.056
6.5	0.195	0.125	0.086	0.083	0.618	0.748	0.111	0.152	0.103	0.098	0.039	0.111	0.065	0.087	0.083	0.091
6.0	0.222	0.157	0.117	0.064	0.499	0.609	0.140	0.193	0.066	0.131	0.051	0.037	0.068	0.066	0.123	0.089
5.5	0.305	0.204	0.091	0.075	0.426	0.540	0.128	0.215	0.164	0.166	0.044	0.079	0.113	0.070	0.217	0.186
5.0	0.248	0.333	0.121	0.103	0.921	1.328	0.233	0.374	0.184	0.182	0.111	0.187	0.144	0.076	0.303	0.171
4.5	0.342	0.286	0.137	0.084	1.524	2.012	0.409	0.314	0.261	0.241	0.140	0.255	0.127	0.072	0.162	0.178
4.0	0.394	0.370	0.095	0.069	1.362	1.263	0.506	0.334	0.183	0.312	0.138	0.219	0.117	0.148	0.356	0.476
3.5	0.400	0.408	0.155	0.052	2.026	1.875	0.695	0.532	0.316	0.272	0.163	0.257	0.212	0.278	0.443	0.579
3.0	0.327	0.333	0.094	0.113	1.613	1.604	0.907	0.609	0.354	0.183	0.199	0.390	0.281	0.390	0.610	0.592
2.5	0.423	0.449	0.134	0.180	1.530	1.347	1.143	0.591	0.555	0.409	0.358	0.425	0.320	0.303	0.605	0.519
2.0	0.284	0.356	0.135	0.116	1.321	1.872	1.124	0.940	0.517	0.724	0.283	0.340	0.383	0.566	0.596	0.677
1.5	0.396	0.442	0.140	0.115	2.637	2.062	1.008	1.575	1.105	0.699	0.461	0.530	0.742	0.647	0.608	0.717
1.0	0.426	0.265	0.140	0.134	1.987	1.999	2.854	2.371	1.108	1.657	0.614	0.538	0.865	0.469	0.634	0.824
0.5	0.360	0.404	0.182	0.154	1.234	1.564	3.502	3.387	1.254	1.621	1.134	0.559	0.925	0.856	0.482	0.818
0.0	0.382	0.497	0.186	0.134	1.177	0.828	4.144	2.841	1.140	2.356	0.556	0.342	0.614	0.625	0.573	0.740

At 10 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.011		0.011		0.014		0.018		0.020		0.019		0.018	
10.0	0.052	0.072	0.045	0.056	0.025	0.050	0.074	0.038	0.091	0.099	0.070	0.083	0.063	0.027	0.024	0.025
9.5	0.081	0.063	0.033	0.073	0.030	0.068	0.052	0.052	0.074	0.072	0.027	*0.008*	0.059	0.055	0.033	0.023
9.0	0.104	0.120	0.052	0.036	0.018	0.038	0.032	0.051	0.101	0.040	0.043	*0.003*	0.056	0.051	*0.017*	*0.013*
8.5	0.101	0.149	0.047	0.077	0.028	0.021	0.037	0.033	0.077	0.085	*0.018*	*0.003*	0.083	0.065	*0.017*	0.018
8.0	0.136	0.129	0.048	0.022	0.032	0.052	0.090	0.083	0.060	0.051	*0.016*	0.034	0.090	0.037	0.045	0.020
7.5	0.166	0.082	0.095	0.054	0.044	0.101	0.073	0.088	0.048	0.059	*0.018*	0.016	0.081	0.031	0.037	0.036
7.0	0.131	0.169	0.055	0.039	0.027	0.037	0.078	0.063	0.092	0.064	0.039	0.044	0.107	0.064	*0.015*	0.027
6.5	0.106	0.080	0.066	0.054	0.040	0.044	0.065	0.112	0.141	0.118	0.069	0.030	0.109	0.073	0.035	0.019
6.0	0.253	0.203	0.070	0.027	0.058	0.046	0.141	0.147	0.085	0.165	0.037	0.018	0.112	0.077	0.043	0.040
5.5	0.185	0.127	0.044	0.097	0.074	0.045	0.112	0.091	0.124	0.192	0.030	0.062	0.135	0.060	0.083	0.078
5.0	0.183	0.222	0.063	0.051	0.056	0.062	0.165	0.145	0.091	0.140	0.065	0.048	0.203	0.143	0.145	0.193
4.5	0.277	0.322	0.086	0.053	0.080	0.050	0.171	0.089	0.217	0.085	0.063	0.096	0.261	0.376	0.211	0.174
4.0	0.264	0.180	0.116	0.061	0.084	0.060	0.180	0.150	0.307	0.127	0.052	0.065	0.424	0.264	0.298	0.287
3.5	0.196	0.198	0.059	0.089	0.099	0.055	0.116	0.220	0.148	0.149	0.067	0.067	0.401	0.327	0.260	0.331
3.0	0.369	0.395	0.062	0.136	0.089	0.125	0.185	0.190	0.185	0.342	0.075	0.037	0.547	0.628	0.396	0.326
2.5	0.303	0.511	0.092	0.045	0.149	0.215	0.355	0.279	0.292	0.233	0.064	0.075	0.537	0.726	0.366	0.388
2.0	0.380	0.398	0.079	0.069	0.120	0.208	0.287	0.354	0.302	0.178	0.078	0.083	0.525	0.774	0.607	0.364
1.5	0.342	0.620	0.079	0.152	0.193	0.181	0.198	0.430	0.401	0.272	0.121	0.139	0.584	0.656	0.448	0.357
1.0	0.361	0.480	0.112	0.091	0.147	0.245	0.311	0.198	0.483	0.276	0.127	0.143	0.990	0.680	0.471	0.408
0.5	0.472	0.472	0.107	0.089	0.062	0.208	0.374	0.209	0.461	0.407	0.137	0.185	0.921	0.728	0.352	0.513
0.0	0.350	0.225	0.104	0.144	0.127	0.125	0.301	0.279	0.443	0.242	0.084	0.159	0.878	0.501	0.400	0.260

At 15 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.009		0.011		0.011		0.014		0.018		0.020		0.019		0.018	
10.0	0.062	0.042	0.072	0.085	0.050	0.051	0.053	0.034	0.095	0.095	0.033	*0.014*	0.077	0.108	0.056	*0.011*
9.5	0.041	0.055	0.068	0.094	0.054	0.028	0.043	0.059	0.053	0.116	0.033	*0.005*	0.063	0.051	0.047	0.020
9.0	0.037	0.033	0.044	0.056	0.049	0.033	0.058	0.031	0.051	0.085	0.035	0.029	0.112	0.072	0.021	*0.006*
8.5	0.054	0.034	0.083	0.039	0.063	0.046	0.065	0.042	0.110	0.102	0.040	0.020	0.064	0.069	0.034	*0.007*
8.0	0.106	0.084	0.060	0.081	0.054	0.027	0.102	0.044	0.140	0.119	0.034	0.035	0.090	0.122	0.040	*0.015*
7.5	0.100	0.093	0.062	0.086	0.045	0.024	0.074	0.078	0.131	0.146	0.043	0.031	0.108	0.129	0.049	*0.009*
7.0	0.155	0.090	0.047	0.063	0.045	0.024	0.064	0.084	0.244	0.182	0.042	0.027	0.083	0.115	0.033	0.041
6.5	0.167	0.094	0.037	0.030	0.050	0.036	0.085	0.110	0.140	0.168	0.080	*0.013*	0.197	0.264	0.044	0.033
6.0	0.143	0.057	0.041	0.060	0.059	0.046	0.074	0.067	0.151	0.116	0.035	0.045	0.255	0.334	0.098	0.055
5.5	0.172	0.209	0.054	0.075	0.059	0.055	0.140	0.104	0.138	0.163	0.085	0.037	0.346	0.297	0.073	0.063
5.0	0.197	0.134	0.051	0.054	0.075	0.067	0.076	0.116	0.193	0.130	0.076	0.041	0.350	0.496	0.108	0.164
4.5	0.106	0.151	0.053	0.070	0.061	0.061	0.113	0.149	0.105	0.198	0.095	0.025	0.341	0.351	0.223	0.173
4.0	0.306	0.282	0.080	0.073	0.082	0.109	0.141	0.181	0.209	0.323	0.089	0.022	0.410	0.333	0.140	0.163
3.5	0.295	0.208	0.064	0.079	0.056	0.072	0.280	0.251	0.236	0.247	0.092	0.034	0.577	0.256	0.189	0.168
3.0	0.363	0.352	0.098	0.089	0.081	0.100	0.206	0.265	0.296	0.207	0.086	0.044	0.614	0.644	0.306	0.256
2.5	0.278	0.201	0.058	0.100	0.107	0.081	0.236	0.270	0.274	0.233	0.102	0.066	0.630	0.544	0.234	0.338
2.0	0.399	0.446	0.094	0.075	0.099	0.097	0.229	0.322	0.447	0.293	0.129	0.046	0.686	0.691	0.289	0.241
1.5	0.160	0.315	0.055	0.114	0.165	0.156	0.350	0.277	0.340	0.333	0.148	0.078	0.412	0.795	0.254	0.347
1.0	0.296	0.327	0.065	0.102	0.129	0.086	0.252	0.262	0.353	0.174	0.187	0.035	0.342	0.616	0.235	0.295
0.5	0.351	0.300	0.082	0.086	0.132	0.208	0.270	0.295	0.210	0.284	0.121	0.098	0.430	0.500	0.346	0.261
0.0	0.317	0.345	0.063	0.139	0.123	0.092	0.205	0.203	0.214	0.204	0.185	0.079	0.282	0.326	0.213	0.216

At 25 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.010		0.011		0.011		0.014		0.018		0.020		0.019		0.018	
10.0	0.054	0.069	0.052	0.116	0.036	0.041	0.053	0.043	0.055	0.059	0.022	0.023	0.078	0.208	0.048	0.019
9.5	0.045	0.076	0.058	0.095	0.055	0.034	0.054	0.069	0.065	0.082	0.028	0.042	0.073	0.092	0.026	0.029
9.0	0.014	0.098	0.029	0.052	0.024	0.031	0.072	0.073	0.085	0.077	0.033	*0.019*	0.114	0.169	0.045	0.025
8.5	0.061	0.053	0.077	0.085	0.044	0.036	0.098	0.051	0.078	0.077	0.065	0.025	0.089	0.137	*0.007*	0.022
8.0	0.094	0.040	0.076	0.077	0.042	0.026	0.059	0.084	0.073	0.084	0.059	0.027	0.145	0.290	0.063	0.047
7.5	0.072	0.044	0.057	0.107	0.033	0.038	0.048	0.061	0.078	0.094	0.053	0.029	0.170	0.263	0.043	0.022
7.0	0.094	0.067	0.039	0.129	0.076	0.048	0.065	0.062	0.070	0.089	0.056	0.035	0.203	0.238	0.021	0.040
6.5	0.097	0.058	0.055	0.054	0.073	0.045	0.056	0.073	0.150	0.124	0.072	0.031	0.266	0.258	0.067	0.038
6.0	0.069	0.071	0.096	0.036	0.086	0.049	0.058	0.061	0.082	0.124	0.091	*0.017*	0.319	0.189	0.114	0.059
5.5	0.063	0.036	0.107	0.145	0.075	0.051	0.070	0.053	0.086	0.083	0.077	0.036	0.164	0.363	0.196	0.107
5.0	0.121	0.105	0.108	0.087	0.091	0.054	0.066	0.090	0.171	0.154	0.125	*0.011*	0.422	0.367	0.103	0.150
4.5	0.116	0.038	0.068	0.076	0.066	0.043	0.070	0.117	0.138	0.173	0.098	0.033	0.449	0.369	0.156	0.126
4.0	0.131	0.090	0.072	0.101	0.068	0.060	0.101	0.095	0.159	0.114	0.117	0.030	0.459	0.262	0.184	0.136
3.5	0.150	0.074	0.081	0.083	0.079	0.068	0.113	0.110	0.134	0.201	0.154	0.031	0.375	0.492	0.152	0.134
3.0	0.135	0.196	0.063	0.079	0.071	0.068	0.170	0.170	0.218	0.215	0.074	0.050	0.322	0.338	0.212	0.182
2.5	0.231	0.286	0.075	0.091	0.083	0.054	0.177	0.244	0.161	0.214	0.150	0.036	0.351	0.399	0.185	0.181
2.0	0.191	0.205	0.075	0.091	0.073	0.031	0.267	0.244	0.200	0.144	0.135	0.048	0.364	0.461	0.165	0.124
1.5	0.196	0.155	0.072	0.081	0.068	0.081	0.307	0.203	0.158	0.193	0.124	0.063	0.388	0.549	0.231	0.194
1.0	0.331	0.190	0.093	0.092	0.089	0.072	0.185	0.295	0.286	0.305	0.133	0.059	0.362	0.407	0.243	0.249
0.5	0.139	0.145	0.055	0.063	0.066	0.065	0.235	0.242	0.287	0.317	0.148	0.048	0.495	0.484	0.208	0.204
0.0	0.180	0.194	0.054	0.045	0.056	0.057	0.253	0.174	0.270	0.176	0.110	0.028	0.302	0.261	0.127	0.156

At 35 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.010		0.011		0.011		0.014		0.018		0.020		0.019		0.021	
10.0	0.049	0.036	0.056	0.063	0.025	0.037	0.044	0.058	0.100	0.106	*0.015*	0.053	0.219	0.227	0.054	0.069
9.5	0.043	0.071	0.050	0.065	0.028	0.024	0.038	0.062	0.135	0.093	0.023	*0.015*	0.142	0.212	0.120	0.045
9.0	0.035	0.071	0.038	0.049	0.029	0.025	0.053	0.043	0.083	0.050	0.034	0.040	0.204	0.169	0.032	0.059
8.5	0.064	0.041	0.056	0.045	0.017	0.021	0.064	0.052	0.122	0.120	0.062	0.055	0.171	0.106	0.061	0.085
8.0	0.041	0.039	0.073	0.078	0.036	0.024	0.056	0.054	0.135	0.138	0.045	*0.016*	0.151	0.269	0.113	0.077
7.5	0.046	0.056	0.053	0.065	0.027	0.031	0.062	0.066	0.154	0.114	0.041	0.038	0.295	0.116	0.116	0.061
7.0	0.028	0.057	0.065	0.090	0.028	0.046	0.060	0.057	0.159	0.107	0.070	0.046	0.179	0.334	0.096	0.110
6.5	0.066	0.045	0.066	0.084	0.032	0.036	0.065	0.064	0.111	0.193	0.057	0.049	0.315	0.327	0.105	0.075
6.0	0.037	0.067	0.073	0.026	*	0.040	0.053	0.059	0.248	0.128	0.050	0.043	0.305	0.287	0.106	0.093
5.5	0.057	0.041	0.034	0.059	0.032	0.042	0.065	0.035	0.194	0.154	0.090	0.032	0.422	0.467	0.273	0.170
5.0	0.073	0.034	0.060	0.035	0.028	0.049	0.062	0.077	0.120	0.186	0.035	0.026	0.565	0.294	0.173	0.217
4.5	0.086	0.063	0.034	0.034	0.018	0.032	0.104	0.058	0.135	0.105	0.078	0.066	0.336	0.330	0.199	0.169
4.0	0.083	0.069	0.091	0.025	0.044	0.056	0.085	0.139	0.214	0.161	0.113	0.046	0.501	0.296	0.193	0.189
3.5	0.095	0.143	0.060	0.028	0.070	0.050	0.075	0.145	0.069	0.140	0.139	0.064	0.513	0.392	0.199	0.237
3.0	0.110	0.074	0.046	0.057	0.036	0.039	0.142	0.118	0.167	0.167	0.107	0.114	0.555	0.415	0.147	0.188
2.5	0.135	0.066	0.040	0.036	0.039	0.027	0.115	0.120	0.120	0.084	0.065	0.036	0.369	0.283	0.211	0.197
2.0	0.100	0.085	0.021	0.021	0.061	0.068	0.124	0.133	0.255	0.257	0.064	0.112	0.479	0.351	0.239	0.212
1.5	0.109	0.101	0.054	0.063	0.057	0.043	0.183	0.244	0.268	0.115	0.144	0.063	0.469	0.303	0.248	0.307
1.0	0.135	0.061	0.085	0.037	0.038	0.066	0.218	0.144	0.212	0.244	0.115	0.093	0.397	0.409	0.247	0.298
0.5	0.138	0.101	0.054	0.026	0.046	0.039	0.213	0.193	0.226	0.232	0.149	0.112	0.322	0.467	0.215	0.144
0.0	0.099	0.074	0.041	0.040	0.028	0.058	0.165	0.120	0.155	0.098	0.054	0.160	0.201	0.280	0.199	0.267

At 50 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.010		0.011		0.011		0.014		0.018		0.020		0.019		0.019	
10.0	0.046	0.051	0.025	0.024	0.061	0.054	0.030	0.031	0.080	0.116	*0.015*	*0.017*	0.085	0.177	0.056	0.044
9.5	0.071	0.073	0.054	0.028	0.033	0.059	0.057	0.028	0.097	0.062	*0.006*	0.025	0.145	0.148	0.038	0.039
9.0	0.058	0.058	0.051	0.023	0.026	0.047	0.050	0.025	0.108	0.060	*-0.003*	0.024	0.150	0.177	0.033	0.062
8.5	0.050	0.067	0.035	0.028	0.035	0.047	0.044	0.057	0.100	0.064	0.023	*0.018*	0.191	0.151	0.053	0.039
8.0	0.047	0.081	0.045	0.033	0.035	0.051	0.035	0.030	0.053	0.056	0.030	0.024	0.115	0.182	0.049	0.075
7.5	0.037	0.035	0.055	0.053	0.030	0.034	0.028	0.047	0.085	0.089	*0.017*	0.028	0.168	0.108	0.072	0.043
7.0	0.096	0.093	0.068	0.219	0.059	0.039	0.053	0.030	0.086	0.091	0.025	*0.013*	0.202	0.146	0.070	0.070
6.5	0.069	0.067	0.067	0.054	0.047	0.046	0.056	0.067	0.093	0.090	*0.018*	0.039	0.184	0.155	0.139	0.137
6.0	0.078	0.078	0.049	0.061	0.045	0.050	0.055	0.057	0.162	0.068	*0.016*	0.028	0.180	0.162	0.120	0.121
5.5	0.076	0.055	0.039	0.045	0.039	0.038	0.073	0.023	0.154	0.068	*0.012*	0.040	0.192	0.203	0.097	0.113
5.0	0.048	0.059	0.034	0.079	0.041	0.053	0.067	0.050	0.111	0.121	0.049	0.028	0.199	0.249	0.119	0.166
4.5	0.164	0.061	0.051	0.069	0.049	0.031	0.051	0.064	0.112	0.096	*0.004*	0.045	0.196	0.183	0.182	0.207
4.0	0.106	0.101	0.045	0.040	0.037	0.031	0.045	0.082	0.109	0.084	*0.014*	0.051	0.109	0.177	0.255	0.215
3.5	0.104	0.089	0.027	0.059	0.056	0.055	0.108	0.115	0.052	0.074	0.026	0.040	0.123	0.190	0.115	0.124
3.0	0.051	0.110	0.051	0.045	0.037	0.033	0.117	0.061	0.097	0.077	*0.011*	0.032	0.225	0.165	0.213	0.157
2.5	0.054	0.109	0.049	0.031	0.052	0.025	0.067	0.143	0.113	0.123	0.047	0.054	0.161	0.236	0.228	0.125
2.0	0.082	0.081	0.031	0.085	0.062	0.035	0.086	0.099	0.134	0.117	0.033	0.061	0.157	0.131	0.192	0.275
1.5	0.144	0.126	0.054	0.065	0.039	0.039	0.085	0.119	0.083	0.178	0.031	0.085	0.162	0.188	0.223	0.233
1.0	0.139	0.195	0.036	0.064	0.040	0.040	0.112	0.150	0.092	0.127	0.062	0.070	0.203	0.279	0.258	0.279
0.5	0.123	0.110	0.040	0.083	0.018	0.038	0.141	0.070	0.105	0.082	0.035	0.078	0.128	0.150	0.209	0.207
0.0	0.053	0.085	0.029	0.033	0.057	0.037	0.093	0.105	0.117	0.058	0.046	0.116	0.184	0.199	0.263	0.086

Annex 5 Airborne spray drift (% of applied spray volume per unit area) – passive measurement; line collectors

XR11004 spraying bare soil surface area

At 5 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Threshold value	0.005		0.005		0.005		0.007		0.007		0.007					
9.75	0.020	0.055	0.020	0.011	0.106	0.134	0.022	0.022	0.128	0.115	0.027	0.046				
9.25	0.014	0.049	0.014	0.024	0.208	0.103	0.046	0.033	0.114	0.054	0.051	0.029				
8.75	0.025	0.070	0.028	0.025	0.273	0.105	0.042	0.037	0.119	0.119	0.043	0.029				
8.25	0.015	0.090	0.039	0.031	0.118	0.202	0.034	0.032	0.209	0.115	0.023	0.040				
7.75	0.043	0.079	0.044	0.044	0.177	0.392	0.045	0.041	0.274	0.224	0.055	0.039				
7.25	0.043	0.076	0.040	0.060	0.314	0.532	0.060	0.053	0.518	0.259	0.040	0.037				
6.75	0.059	0.120	0.052	0.072	0.325	0.455	0.046	0.059	0.466	0.358	0.042	0.038				
6.25	0.062	0.093	0.074	0.094	0.445	0.477	0.067	0.090	0.440	0.543	0.049	0.048				
5.75	0.084	0.116	0.134	0.124	0.402	0.492	0.095	0.067	0.597	0.309	0.041	0.017				
5.25	0.110	0.159	0.166	0.177	0.544	0.667	0.161	0.114	0.476	0.278	0.048	0.084				
4.75	0.174	0.240	0.190	0.172	0.925	0.845	0.199	0.210	0.439	0.444	0.050	0.088				
4.25	0.183	0.335	0.256	0.247	0.916	0.972	0.215	0.232	0.588	0.411	0.057	0.127				
3.75	0.198	0.497	0.607	0.230	0.938	1.171	0.209	0.346	0.573	0.325	0.085	0.157				
3.25	0.424	0.712	0.391	0.328	1.111	1.505	0.422	0.452	0.438	0.619	0.110	0.337				
2.75	0.695	0.846	0.485	0.811	1.512	1.932	0.357	0.541	0.630	0.696	0.203	0.421				
2.25	0.977	1.455	0.744	0.836	1.325	2.422	0.516	0.864	0.833	0.656	0.336	0.354				
1.75	2.203	3.052	0.798	1.445	1.959	3.421	0.857	0.967	0.812	0.757	0.393	0.377				
1.25	2.038	5.032	1.174	1.468	2.958	2.456	1.362	1.209	0.923	1.122	0.422	0.480				
0.75	2.872	4.940	2.145	1.856	3.856	3.214	1.880	1.007	0.877	2.038	0.711	0.240				
0.25	3.875	4.333	2.712	4.693	4.119	5.783	2.415	1.042	0.572	2.131	0.976	0.722				

At 10 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.005		0.005		0.007		0.003		0.007					
9.75	0.070	0.021	0.016	0.043	0.152	0.120	0.062	0.049	0.049	0.046	0.043	0.015				
9.25	0.024	0.036	0.045	0.029	0.141	0.138	0.055	0.075	0.057	0.055	0.048	0.047				
8.75	0.022	0.051	0.059	0.040	0.158	0.175	0.057	0.151	0.051	0.067	0.027	0.019				
8.25	0.056	0.052	0.058	0.041	0.173	0.222	0.082	0.074	0.066	0.057	0.053	0.035				
7.75	0.045	0.059	0.111	0.064	0.196	0.216	0.130	0.131	0.083	0.085	0.044	0.024				
7.25	0.040	0.070	0.113	0.083	0.230	0.259	0.138	0.127	0.124	0.067	0.029	0.041				
6.75	0.060	0.071	0.183	0.111	0.310	0.216	0.306	0.137	0.109	0.100	0.030	0.031				
6.25	0.055	0.068	0.298	0.170	0.269	0.339	0.198	0.130	0.113	0.112	0.077	0.052				
5.75	0.075	0.033	0.242	0.798	0.366	0.365	0.230	0.181	0.099	0.153	0.043	0.080				
5.25	0.111	0.171	0.428	0.297	0.488	0.553	0.260	0.134	0.127	0.102	0.068	0.046				
4.75	0.169	0.223	0.511	0.618	0.469	0.585	0.199	0.271	0.137	0.111	0.053	0.106				
4.25	0.371	0.146	0.615	0.510	0.485	0.807	0.286	0.373	0.106	0.119	0.087	0.158				
3.75	0.716	0.394	0.617	0.782	0.678	1.033	0.320	0.362	0.128	0.140	0.136	0.193				
3.25	1.378	0.546	0.924	0.622	0.577	1.079	0.285	0.485	0.128	0.125	0.142	0.101				
2.75	1.199	1.629	1.116	1.154	0.743	1.436	0.437	0.365	0.178	0.159	0.139	0.136				
2.25	1.885	2.242	1.620	1.597	0.907	1.425	0.383	0.506	0.249	0.246	0.237	0.081				
1.75	2.804	2.668	1.818	2.025	0.856	1.817	0.551	0.547	0.212	0.180	0.284	0.197				
1.25	2.153	2.363	2.228	2.790	1.644	2.380	0.662	0.675	0.220	0.325	0.210	0.238				
0.75	3.386	2.817	2.490	2.851	2.328	2.721	0.401	0.446	0.257	0.372	0.297	0.283				
0.25	3.480	2.101	2.327	2.308	2.702	4.104	0.615	0.535	0.233	0.357	0.556	0.261				

At 15 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.005		0.005		0.007		0.007		0.007					
9.75	0.027	0.019	0.032	0.055	0.261	0.311	0.033	0.046	0.141	0.108	0.054	0.028				
9.25	0.021	0.031	0.033	0.071	0.291	0.195	0.051	0.051	0.108	0.094	0.056	0.071				
8.75	0.036	0.028	0.062	0.093	0.244	0.268	0.045	0.088	0.175	0.153	0.050	0.053				
8.25	0.023	0.012	0.078	0.118	0.399	0.264	0.067	0.074	0.144	0.141	0.023	0.033				
7.75	0.023	0.036	0.114	0.170	0.300	0.344	0.085	0.100	0.179	0.149	0.065	0.049				
7.25	0.021	0.035	0.167	0.124	0.327	0.258	0.109	0.105	0.187	0.161	0.023	0.084				
6.75	0.068	0.046	0.147	0.135	0.271	0.279	0.100	0.156	0.202	0.135	0.034	0.063				
6.25	0.043	0.087	0.230	0.253	0.239	0.281	0.149	0.160	0.213	0.208	0.044	0.088				
5.75	0.086	0.080	0.211	0.263	0.230	0.432	0.191	0.167	0.270	0.225	0.016	0.076				
5.25	0.098	0.169	0.281	0.237	0.318	0.358	0.246	0.348	0.252	0.246	0.062	0.080				
4.75	0.167	0.198	0.335	0.462	0.446	0.520	0.249	0.455	0.246	0.214	0.048	0.065				
4.25	0.239	0.302	0.297	0.490	0.547	0.426	0.280	0.442	0.268	0.245	0.080	0.129				
3.75	0.321	0.457	0.371	0.402	0.442	0.717	0.273	0.246	0.305	0.252	0.063	0.085				
3.25	0.493	0.565	0.410	0.485	0.459	0.558	0.281	0.469	0.281	0.294	0.066	0.092				
2.75	0.661	0.760	0.520	0.543	0.674	0.837	0.477	0.394	0.411	0.369	0.100	0.093				
2.25	0.541	1.311	0.570	0.655	0.903	0.981	0.355	0.507	0.356	0.299	0.125	0.091				
1.75	1.131	1.543	0.819	0.846	1.096	1.157	0.414	0.676	0.440	0.363	0.119	0.063				
1.25	1.196	1.676	0.523	0.806	0.925	1.606	0.461	0.493	0.349	0.418	0.210	0.120				
0.75	1.482	1.639	0.560	0.750	1.999	1.849	0.434	0.528	0.336	0.298	0.153	0.126				
0.25	1.665	2.150	1.203	1.567	1.260	2.436	0.294	0.555	0.305	0.318	0.212	0.104				

At 25 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.005		0.005		0.007		0.007		0.007					
9.75	0.019	0.011	0.081	0.077	0.209	0.170	0.079	0.061	0.072	0.052	0.013	0.063				
9.25	0.010	0.030	0.126	0.067	0.475	0.261	0.049	0.079	0.041	0.073	0.029	0.047				
8.75	0.015	0.052	0.110	0.089	0.453	0.262	0.044	0.148	0.128	0.075	0.056	0.082				
8.25	0.019	0.053	0.103	0.145	0.288	0.317	0.133	0.142	0.090	0.089	0.084	0.050				
7.75	0.020	0.036	0.106	0.133	0.507	0.234	0.158	0.184	0.092	0.117	0.073	0.058				
7.25	0.047	0.031	0.135	0.127	0.489	0.367	0.143	0.213	0.063	0.113	0.058	0.056				
6.75	0.032	0.032	0.097	0.101	0.552	0.416	0.175	0.199	0.094	0.126	0.042	0.070				
6.25	0.064	0.047	0.173	0.157	0.576	0.575	0.148	0.291	0.087	0.147	0.038	0.040				
5.75	0.087	0.048	0.135	0.244	0.662	0.632	0.138	0.310	0.072	0.118	0.096	0.066				
5.25	0.077	0.064	0.113	0.174	0.578	0.567	0.209	0.336	0.074	0.138	0.119	0.062				
4.75	0.112	0.038	0.210	0.220	0.559	0.786	0.166	0.343	0.079	0.157	0.189	0.073				
4.25	0.164	0.097	0.192	0.250	0.517	0.860	0.183	0.215	0.062	0.164	0.218	0.054				
3.75	0.138	0.157	0.227	0.296	0.581	0.734	0.220	0.338	0.133	0.181	0.184	0.068				
3.25	0.251	0.216	0.233	0.295	0.503	0.665	0.214	0.267	0.120	0.210	0.151	0.094				
2.75	0.309	0.430	0.312	0.400	0.558	0.615	0.261	0.345	0.193	0.268	0.155	0.104				
2.25	0.324	0.553	0.392	0.517	0.588	0.698	0.507	0.379	0.129	0.249	0.077	0.111				
1.75	0.760	0.641	0.498	0.706	0.828	0.819	0.250	0.433	0.194	0.274	0.187	0.138				
1.25	0.704	0.987	0.489	0.592	0.930	1.043	0.363	0.575	0.168	0.275	0.267	0.108				
0.75	0.773	0.923	0.697	0.768	0.883	1.088	0.237	0.314	0.164	0.267	0.163	0.096				
0.25	0.508	0.853	0.505	0.840	1.416	0.844	0.278	0.351	0.145	0.237	0.185	0.088				

At 35 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.005		0.004		0.007		0.010		0.007					
9.75	0.012	0.016	0.019	0.013	0.327	0.364	0.086	0.067	0.517	*-0.010*	0.064	0.051				
9.25	0.026	0.017	0.015	0.022	0.337	0.306	0.065	0.069	0.671	0.286	0.063	0.050				
8.75	0.016	0.026	0.010	0.026	0.407	0.263	0.128	0.082	0.304	0.535	0.064	0.063				
8.25	0.022	0.038	0.034	0.016	0.277	0.288	0.184	0.101	0.491	0.233	0.065	0.054				
7.75	0.048	0.046	0.026	0.034	0.309	0.300	0.136	0.101	0.340	0.455	0.065	0.067				
7.25	0.086	0.046	0.031	0.036	0.358	0.408	0.157	0.121	0.510	0.536	0.070	0.087				
6.75	0.086	0.053	0.058	0.047	0.503	0.452	0.103	0.095	0.591	0.696	0.095	0.111				
6.25	0.115	0.090	0.065	0.053	0.575	0.460	0.115	0.175	0.857	0.633	0.113	0.098				
5.75	0.117	0.126	0.064	0.057	*	0.507	0.082	0.097	1.066	0.437	0.065	0.084				
5.25	0.120	0.170	0.070	0.088	0.650	0.667	0.130	0.145	1.220	0.543	0.125	0.071				
4.75	0.185	0.182	0.106	0.144	0.493	0.654	0.163	0.102	0.871	0.568	0.086	0.094				
4.25	0.206	0.236	0.087	0.201	0.884	0.622	0.175	0.150	0.638	0.762	0.087	0.097				
3.75	0.178	0.183	0.156	0.214	0.859	0.520	0.229	0.153	0.873	0.793	0.155	0.138				
3.25	0.113	0.227	0.215	0.276	0.923	0.622	0.187	0.166	0.771	1.289	0.224	0.129				
2.75	0.164	0.209	0.353	0.305	0.634	0.827	0.163	0.084	1.107	0.687	0.194	0.187				
2.25	0.339	0.117	0.442	0.336	0.848	0.848	0.255	0.148	0.931	0.692	0.153	0.162				
1.75	0.356	0.255	0.433	0.447	1.045	0.784	0.144	0.146	0.759	0.776	0.222	0.172				
1.25	0.380	0.368	0.532	0.459	1.298	0.747	0.180	0.089	0.593	0.451	0.165	0.138				
0.75	0.636	0.492	0.541	0.460	1.255	1.008	0.117	0.072	0.542	0.932	0.163	0.143				
0.25	0.480	0.598	0.587	0.615	1.452	0.809	0.147	0.135	0.700	0.534	0.097	0.155				

At 50 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.005		0.004		0.007		0.007		0.007					
9.75	0.044	0.076	0.024	0.028	0.087	0.081	0.085	0.067	0.208	0.113	0.071	0.050				
9.25	0.146	0.041	0.011	0.018	0.136	0.117	0.079	0.071	0.115	0.141	0.213	0.030				
8.75	0.113	0.077	0.026	0.022	0.130	0.113	0.098	0.061	0.111	0.135	0.078	0.046				
8.25	0.074	0.078	0.031	0.024	0.153	0.221	0.115	0.087	0.114	0.123	0.077	0.037				
7.75	0.141	0.191	0.043	0.034	0.292	0.245	0.089	0.086	0.124	0.109	0.098	0.046				
7.25	0.141	0.098	0.037	0.045	0.185	0.272	0.121	0.090	0.145	0.182	0.084	0.039				
6.75	0.236	0.151	0.056	0.033	0.745	0.354	0.101	0.084	0.091	0.242	0.080	0.042				
6.25	0.220	0.157	0.048	0.032	0.439	0.404	0.096	0.091	0.145	0.379	0.077	0.067				
5.75	0.287	0.303	0.040	0.036	0.445	0.460	0.064	0.084	0.138	0.099	0.094	0.066				
5.25	0.148	0.345	0.054	0.044	0.400	0.425	0.117	0.123	0.127	0.097	0.101	0.074				
4.75	0.379	0.330	0.057	0.050	0.441	0.424	0.078	0.092	0.124	0.115	0.144	0.125				
4.25	0.214	0.422	0.066	0.088	0.594	0.881	0.072	0.058	0.141	0.091	0.075	0.084				
3.75	0.451	0.394	0.085	0.055	0.637	0.829	0.064	0.090	0.136	0.146	0.099	0.078				
3.25	0.358	0.318	0.075	0.057	0.567	0.935	0.087	0.066	0.083	0.108	0.105	0.132				
2.75	0.320	0.243	0.066	0.071	0.528	0.807	0.060	0.088	0.114	0.090	0.120	0.126				
2.25	0.557	0.329	0.093	0.130	0.921	1.230	0.089	0.078	0.116	0.091	0.114	0.095				
1.75	0.714	0.447	0.078	0.123	0.903	1.067	0.056	0.049	0.092	0.067	0.143	0.109				
1.25	0.494	0.398	0.120	0.145	1.006	0.859	0.056	0.053	0.074	0.121	0.105	0.124				
0.75	0.497	0.486	0.146	0.097	0.750	0.964	0.045	0.046	0.122	0.107	0.103	0.135				
0.25	0.451	0.562	0.111	0.095	0.853	0.892	0.048	0.040	0.064	0.052	0.103	0.168				

XR11004 spraying an onion crop

At 5 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.006		0.007		0.007		0.010		0.010		0.010		0.011		0.012	
9.75	0.151	0.226	0.218	0.113	0.072	0.107	0.157	0.112	0.039	0.022	0.022	0.064	0.010	0.039	0.059	0.058
9.25	0.158	0.160	0.184	0.106	0.121	0.173	0.112	0.143	0.051	0.030	0.021	0.035	0.026	0.040	0.071	0.087
8.75	0.184	0.200	0.230	0.135	0.221	0.194	0.135	0.116	0.069	0.039	0.021	0.040	0.014	0.032	0.098	0.124
8.25	0.198	0.146	0.286	0.198	0.245	0.321	0.132	0.145	0.168	0.058	0.026	0.059	0.016	0.036	0.133	0.227
7.75	0.207	0.171	0.197	0.207	0.251	0.296	0.161	0.196	0.043	0.048	0.026	0.041	0.011	0.092	0.190	0.280
7.25	0.272	0.207	0.332	0.195	0.228	0.358	0.191	0.174	0.084	0.070	0.057	0.051	0.013	0.031	0.330	0.719
6.75	0.251	0.268	0.397	0.187	0.242	0.348	0.267	0.261	0.045	0.087	0.038	0.020	0.027	0.017	0.734	1.444
6.25	0.342	0.198	0.502	0.297	0.308	0.368	0.343	0.314	0.087	0.079	0.069	0.074	0.074	0.041	0.935	1.427
5.75	0.273	0.310	0.399	0.335	0.325	0.408	0.712	0.620	0.085	0.130	0.134	0.097	0.146	0.037	1.744	1.963
5.25	0.289	0.380	0.803	0.528	0.434	0.493	0.727	0.525	0.113	0.134	0.088	0.114	0.145	0.060	2.265	3.312
4.75	0.418	0.443	1.156	0.737	0.574	0.634	0.931	0.850	0.145	0.171	0.101	0.148	0.282	0.064	1.992	2.392
4.25	0.390	0.300	1.935	0.465	0.767	0.724	0.947	1.204	0.249	0.212	0.111	0.167	0.474	0.459	3.330	3.205
3.75	0.603	0.452	2.602	1.680	0.689	0.755	1.361	1.545	0.280	0.178	0.183	0.238	1.137	0.385	2.418	4.089
3.25	0.641	0.599	3.534	3.010	1.041	1.403	1.411	1.733	0.576	0.376	0.315	0.487	1.049	0.456	4.366	3.205
2.75	0.567	0.792	3.490	4.099	1.329	1.338	1.330	1.435	0.680	0.727	0.701	0.751	1.115	1.054	4.623	3.390
2.25	0.686	0.940	3.651	3.223	1.390	1.441	2.078	1.774	1.087	1.096	1.275	1.297	1.288	0.548	6.194	3.740
1.75	1.120	0.961	2.763	1.944	0.907	1.884	3.081	2.720	0.830	1.204	2.376	3.372	1.726	1.563	6.841	6.069
1.25	1.947	1.740	1.977	2.096	1.433	1.849	5.130	4.756	2.279	2.171	3.570	3.193	2.374	1.518	7.070	5.527
0.75	2.128	1.993	1.081	2.318	0.976	0.936	9.662	7.120	3.993	4.514	4.259	5.011	3.719	2.298	10.401	9.486
0.25	2.387	1.976	2.159	2.413	1.165	1.419	8.667	6.235	5.117	3.332	9.568	8.028	9.110	3.262	13.442	7.432

At 10 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.006		0.007		0.007		0.010		0.010		0.010		0.011		0.011	
9.75	0.114	0.127	0.098	0.088	0.068	0.084	0.081	0.076	0.034	0.022	0.022	0.034	0.033	0.025	0.198	0.239
9.25	0.117	0.111	0.083	0.093	0.092	0.117	0.081	0.108	0.073	0.033	0.021	*0.009*	*0.010*	0.038	0.172	0.391
8.75	0.152	0.121	0.090	0.100	0.107	0.107	0.086	0.087	0.048	0.038	0.015	0.010	0.017	0.039	0.216	0.522
8.25	0.247	0.162	0.117	0.149	0.121	0.128	0.126	0.130	0.093	0.062	0.016	*0.008*	*0.008*	0.037	0.353	0.423
7.75	0.174	0.184	0.272	0.136	0.125	0.188	0.223	0.154	0.072	0.070	*0.010*	*0.006*	*0.005*	0.038	0.515	0.959
7.25	0.190	0.270	0.303	0.224	0.170	0.190	0.161	0.192	0.098	0.083	0.014	0.017	0.011	0.032	0.907	0.923
6.75	0.146	0.301	0.223	0.179	0.247	0.191	0.291	0.195	0.085	0.096	0.022	0.042	0.022	0.033	1.055	1.039
6.25	0.226	0.267	0.272	0.262	0.203	0.230	0.337	0.292	0.105	0.158	0.037	0.056	0.025	0.071	1.465	2.522
5.75	0.333	0.320	0.307	0.222	0.283	0.344	0.597	0.363	0.189	0.170	0.066	0.077	0.088	0.099	2.519	2.989
5.25	0.210	0.394	0.283	0.355	0.332	0.377	0.923	0.472	0.200	0.193	0.093	0.103	0.092	0.143	4.396	3.016
4.75	0.276	0.250	0.347	0.307	0.223	0.359	0.810	0.666	0.250	0.306	0.120	0.128	0.306	0.248	1.909	4.022
4.25	0.220	0.420	0.308	0.424	0.283	0.388	1.047	1.163	0.460	0.317	0.115	0.157	0.410	0.676	3.169	4.493
3.75	0.313	0.321	0.338	0.357	0.472	0.430	1.793	1.070	0.370	0.340	0.219	0.146	0.503	1.178	2.299	4.210
3.25	0.465	0.478	0.421	0.359	0.403	0.614	1.952	1.359	0.376	0.349	0.314	0.940	0.784	1.239	2.117	3.846
2.75	0.495	0.533	0.394	0.503	0.539	0.471	1.965	1.236	0.389	0.446	0.466	1.037	0.833	1.154	3.920	4.068
2.25	0.699	0.938	0.391	0.516	0.630	0.595	3.020	1.967	0.435	0.498	0.649	0.816	1.124	1.196	4.910	4.410
1.75	0.652	0.926	0.337	0.386	0.691	0.593	3.216	2.342	0.528	0.596	0.576	0.451	1.181	1.482	6.416	6.336
1.25	0.804	1.362	0.486	0.453	0.846	0.746	3.464	2.373	0.863	1.076	1.308	0.289	1.459	1.315	5.401	7.060
0.75	0.873	0.916	0.477	0.461	0.860	0.530	4.018	5.291	1.321	0.834	1.724	*-0.034*	1.717	1.369	6.458	8.073
0.25	0.678	0.782	0.395	0.549	0.938	0.972	5.130	4.385	1.284	0.513	2.865	*-0.047*	2.004	2.515	5.816	7.513

At 15 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.006		0.007		0.007		0.010		0.009		0.010		0.012		0.011	
9.75	0.198	0.077	0.169	0.150	0.093	0.069	0.136	0.117	0.051	0.030	0.013	0.014	*0.005*	0.030	0.423	0.362
9.25	0.086	0.103	0.135	0.148	0.099	0.156	0.201	0.146	0.039	0.041	*0.009*	0.010	0.013	0.022	0.555	0.654
8.75	0.119	0.148	0.126	0.136	0.166	0.130	0.131	0.157	0.039	0.038	0.011	0.031	0.019	0.014	0.835	1.161
8.25	0.179	0.141	0.270	0.184	0.138	0.147	0.246	0.340	0.068	0.060	0.012	0.013	0.023	0.022	1.351	0.956
7.75	0.226	0.129	0.159	0.220	0.173	0.130	0.445	0.528	0.055	0.061	0.011	*0.009*	0.012	0.026	1.881	1.945
7.25	0.207	0.138	0.235	0.214	0.170	0.232	0.504	0.382	0.048	0.028	0.018	0.012	0.013	0.029	2.876	2.491
6.75	0.160	0.170	0.276	0.333	0.188	0.182	0.631	0.317	0.083	0.099	0.028	0.025	0.015	0.037	2.815	2.968
6.25	0.305	0.219	0.345	0.292	0.251	0.305	0.759	0.432	0.093	0.072	0.039	0.039	0.036	0.047	2.568	4.236
5.75	0.351	0.297	0.224	0.254	0.354	0.273	0.756	0.391	0.097	0.121	0.067	0.051	0.101	0.072	3.155	3.772
5.25	0.259	0.401	0.377	0.320	0.404	0.309	0.953	0.500	0.156	0.125	0.089	0.067	0.185	0.123	3.709	4.727
4.75	0.355	0.367	0.331	0.267	0.374	0.336	0.789	0.726	0.160	0.119	0.123	0.110	0.258	0.223	3.702	4.849
4.25	0.368	0.361	0.455	0.310	0.404	0.390	1.476	0.883	0.178	0.217	0.068	0.139	0.402	0.504	5.569	5.045
3.75	0.580	0.446	0.367	0.298	0.366	0.380	1.838	1.320	0.110	0.198	0.128	0.152	0.423	0.596	5.731	6.941
3.25	0.648	0.507	0.357	0.367	0.481	0.332	2.072	1.903	0.286	0.235	0.223	0.271	0.652	0.780	5.075	7.759
2.75	0.822	0.551	0.301	0.363	0.403	0.324	2.794	1.610	0.238	0.340	0.307	0.324	0.931	0.600	4.589	6.955
2.25	0.769	0.678	0.306	0.463	0.362	0.419	2.353	2.404	0.304	0.361	0.397	0.735	0.957	0.819	4.733	5.484
1.75	0.876	0.843	0.260	0.352	0.415	0.400	2.377	3.224	0.128	0.258	0.669	0.817	1.220	1.018	4.653	4.986
1.25	0.957	0.764	0.275	0.268	0.609	0.554	1.801	2.250	0.359	0.418	1.205	0.667	1.386	1.795	5.438	5.292
0.75	0.812	0.638	0.250	0.321	0.683	0.453	2.566	4.209	0.356	0.541	1.140	0.940	1.443	2.938	5.707	6.383
0.25	0.517	0.507	0.257	0.351	0.573	0.403	2.285	4.092	0.317	0.604	1.065	0.751	2.047	2.736	5.617	5.095

At 25 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.006		0.007		0.007		0.010		0.009		0.010		0.012		0.011	
9.75	0.164	0.147	0.162	0.202	0.073	0.104	0.599	0.282	0.028	0.043	0.011	0.014	0.023	*0.005*	0.520	0.665
9.25	0.143	0.160	0.201	0.178	0.113	0.090	0.448	0.546	0.036	0.035	0.021	0.025	0.018	0.016	0.559	0.571
8.75	0.154	0.158	0.225	0.186	0.099	0.090	0.612	0.549	0.053	0.039	0.035	0.017	0.021	0.021	0.879	0.833
8.25	0.182	0.207	0.205	0.227	0.128	0.101	0.571	0.382	0.036	0.044	0.024	0.038	0.016	0.022	0.863	1.202
7.75	0.230	0.242	0.233	0.247	0.108	0.164	0.760	0.499	0.032	0.057	0.046	0.022	*0.009*	0.021	1.186	1.330
7.25	0.236	0.219	0.262	0.295	0.148	0.121	0.733	0.709	0.021	0.046	0.028	0.028	0.019	0.020	1.977	1.379
6.75	0.229	0.233	0.200	0.206	0.177	0.277	0.786	0.593	0.039	0.073	0.049	0.048	0.026	0.020	2.872	1.786
6.25	0.184	0.339	0.314	0.363	0.191	0.229	0.853	0.823	0.037	0.091	0.051	0.037	0.038	0.046	2.676	2.432
5.75	0.247	0.302	0.270	0.310	0.226	0.234	0.511	0.741	0.073	0.095	0.087	0.044	0.073	0.064	3.067	3.056
5.25	0.282	0.330	0.240	0.245	0.279	0.286	0.885	1.020	0.051	0.113	0.129	0.144	0.112	0.068	3.002	2.601
4.75	0.430	0.425	0.361	0.360	0.306	0.341	1.021	0.965	0.065	0.095	0.190	0.129	0.133	0.110	2.459	2.748
4.25	0.326	0.433	0.321	0.422	0.249	0.268	0.856	0.939	0.098	0.173	0.163	0.204	0.257	0.142	3.286	3.201
3.75	0.373	0.432	0.246	0.300	0.335	0.335	1.385	0.897	0.134	0.138	0.244	0.201	0.282	0.244	3.216	2.860
3.25	0.385	0.492	0.279	0.291	0.443	0.351	1.137	1.028	0.076	0.170	0.291	0.276	0.233	0.204	3.929	3.708
2.75	0.506	0.734	0.314	0.341	0.506	0.369	1.669	1.120	0.215	0.220	0.491	0.431	0.563	0.472	4.528	3.905
2.25	0.521	0.613	0.294	0.339	0.511	0.295	1.596	1.430	0.182	0.222	0.647	0.415	0.513	0.506	3.495	4.324
1.75	0.539	0.781	0.195	0.293	0.558	0.471	1.365	1.063	0.182	0.317	0.779	0.409	0.576	0.528	4.372	4.641
1.25	0.923	0.543	0.261	0.343	0.552	0.599	1.289	1.361	0.268	0.367	0.564	0.528	0.549	0.327	4.425	5.723
0.75	0.798	0.656	0.355	0.277	0.661	0.494	1.123	1.047	0.341	0.254	0.475	0.555	0.715	0.533	5.240	3.677
0.25	0.696	0.539	0.385	0.269	0.821	0.597	1.376	1.131	0.353	0.398	1.056	0.617	0.745	0.536	7.067	4.818

At 35 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.006		0.007		0.007		0.011		0.009		0.010		0.012		0.011	
9.75	0.203	0.162	0.217	0.218	0.069	0.095	0.271	0.358	0.059	0.103	0.017	0.012	0.021	0.022	0.863	0.819
9.25	0.201	0.171	0.325	0.162	0.094	0.105	0.379	0.355	0.059	0.124	0.030	0.014	0.025	0.017	0.660	0.738
8.75	0.200	0.166	0.236	0.199	0.108	0.164	0.302	0.321	0.099	0.099	0.045	*0.010*	0.026	0.035	0.689	1.135
8.25	0.207	0.146	0.218	0.203	0.115	0.148	0.224	0.456	0.074	0.067	0.019	0.027	0.037	0.048	1.112	1.549
7.75	0.163	0.154	0.270	0.198	0.107	0.128	0.248	0.358	0.093	0.083	0.038	0.023	0.026	0.066	1.441	1.205
7.25	0.233	0.198	0.256	0.220	0.127	0.123	0.252	0.233	0.098	0.089	0.037	0.013	0.049	0.069	1.177	1.205
6.75	0.198	0.190	0.221	0.237	0.101	0.158	0.265	0.410	0.077	0.088	0.042	0.024	0.059	0.126	1.432	1.249
6.25	0.165	0.177	0.220	0.204	0.108	0.193	0.432	0.492	0.104	0.112	0.032	0.035	0.122	0.099	1.421	1.392
5.75	0.249	0.238	0.322	0.192	*	0.087	0.503	0.553	0.155	0.129	0.052	0.028	0.115	0.159	1.706	1.461
5.25	0.306	0.266	0.278	0.235	0.196	0.118	0.561	0.550	0.088	0.111	0.062	0.070	0.160	0.171	1.898	1.229
4.75	0.301	0.281	0.303	0.321	0.192	0.196	0.935	0.602	0.112	0.099	0.081	0.091	0.182	0.197	1.696	0.963
4.25	0.392	0.320	0.355	0.271	0.152	0.236	0.632	0.711	0.097	0.128	0.128	0.129	0.299	0.219	2.445	1.393
3.75	0.364	0.335	0.214	0.320	0.181	0.297	0.709	0.644	0.133	0.153	0.115	0.085	0.338	0.343	2.172	1.595
3.25	0.402	0.447	0.292	0.246	0.228	0.358	0.672	0.660	0.133	0.144	0.162	0.163	0.383	0.263	2.415	1.893
2.75	0.379	0.504	0.330	0.281	0.184	0.422	0.541	0.637	0.144	0.216	0.248	0.168	0.397	0.285	1.814	1.901
2.25	0.459	0.540	0.279	0.275	0.234	0.398	1.091	0.781	0.204	0.179	0.162	0.238	0.528	0.524	2.532	2.517
1.75	0.482	0.523	0.336	0.276	0.310	0.626	0.679	0.840	0.226	0.275	0.282	0.236	0.546	0.602	3.317	2.699
1.25	0.428	0.517	0.255	0.352	0.328	0.502	0.649	0.810	0.281	0.199	0.422	0.295	0.626	0.586	3.222	2.720
0.75	0.525	0.485	0.299	0.240	0.314	0.394	0.362	0.641	0.103	0.293	0.258	0.286	0.480	0.576	3.238	3.535
0.25	0.440	0.572	0.223	0.345	0.465	0.504	0.296	0.384	0.180	0.256	0.362	0.325	0.559	0.368	2.414	4.043

At 50 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.006		0.007		0.007		0.010		0.009		0.010		0.012		0.011	
9.75	0.118	0.130	0.130	0.085	0.071	0.216	0.118	0.163	0.045	0.054	0.021	0.016	0.055	0.031	0.328	0.241
9.25	0.193	0.124	0.100	0.101	0.096	0.085	0.112	0.132	0.060	0.063	0.016	0.019	0.029	0.048	0.450	0.270
8.75	0.186	0.142	0.090	0.131	0.057	0.079	0.097	0.089	0.114	0.081	*0.010*	0.020	0.096	0.078	0.442	0.393
8.25	0.221	0.162	0.119	0.115	0.087	0.080	0.115	0.114	0.086	0.084	*0.009*	0.039	0.101	0.071	0.494	0.470
7.75	0.149	0.158	0.110	0.106	0.065	0.116	0.147	0.157	0.088	0.108	0.012	0.029	0.095	0.110	0.449	0.421
7.25	0.241	0.177	0.091	0.111	0.091	0.088	0.112	0.170	0.119	0.103	0.044	0.052	0.078	0.155	0.548	0.459
6.75	0.261	0.217	0.170	0.150	0.119	0.077	0.094	0.113	0.164	0.118	0.050	0.064	0.087	0.129	0.472	0.446
6.25	0.317	0.192	0.200	0.130	0.087	0.082	0.100	0.119	0.146	0.122	0.057	0.050	0.132	0.151	0.561	0.619
5.75	0.374	0.194	0.186	0.170	0.119	0.068	0.092	0.101	0.105	0.129	0.069	0.062	0.166	0.163	0.628	0.595
5.25	0.361	0.227	0.236	0.249	0.118	0.071	0.111	0.124	0.163	0.166	0.034	0.094	0.192	0.152	0.773	0.655
4.75	0.254	0.223	0.203	0.134	0.127	0.094	0.103	0.141	0.095	0.207	0.079	0.072	0.282	0.264	0.669	0.498
4.25	0.263	0.218	0.220	0.213	0.191	0.118	0.110	0.125	0.161	0.224	0.085	0.103	0.319	0.335	0.792	0.694
3.75	0.243	0.168	0.185	0.154	0.160	0.232	0.099	0.170	0.154	0.215	0.105	0.113	0.293	0.322	0.977	0.768
3.25	0.269	0.242	0.224	0.192	0.144	0.226	0.104	0.150	0.171	0.202	0.149	0.150	0.606	0.381	1.018	0.999
2.75	0.336	0.273	0.247	0.172	0.237	0.192	0.128	0.141	0.223	0.186	0.149	0.193	0.543	0.331	1.172	1.094
2.25	0.344	0.270	0.199	0.159	0.163	0.172	0.157	0.200	0.109	0.255	0.157	0.202	0.517	0.457	1.000	0.844
1.75	0.273	0.341	0.177	0.183	0.233	0.233	0.132	0.122	0.156	0.150	0.228	0.272	0.492	0.333	1.388	1.193
1.25	0.294	0.349	0.145	0.155	0.210	0.247	0.082	0.108	0.257	0.196	0.139	0.209	0.501	0.362	1.148	1.112
0.75	0.302	0.319	0.124	0.125	0.172	0.254	0.060	0.105	0.242	0.167	0.200	0.137	0.327	0.323	1.403	1.097
0.25	0.400	0.263	0.122	0.127	0.239	0.291	0.104	0.101	0.164	0.188	0.278	0.177	0.616	0.266	1.080	0.762

XLTD11004 spraying bare soil surface area

At 5 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.005		0.004		0.006									
9.75	0.006	*0.003*	*0.000*	*0.000*	0.025	0.026	0.026	0.015								
9.25	*0.001*	*-0.004*	*-0.003*	*0.000*	0.029	0.017	0.012	0.009								
8.75	*0.002*	*-0.005*	*-0.003*	*-0.004*	0.022	0.028	0.011	0.016								
8.25	*-0.003*	*-0.004*	*0.001*	0.010	0.076	0.021	0.012	0.017								
7.75	*0.000*	*-0.004*	*0.002*	*0.000*	0.041	0.025	0.013	0.024								
7.25	0.013	*-0.004*	*0.000*	*0.002*	0.042	0.037	0.024	0.019								
6.75	0.012	*0.001*	0.005	*0.002*	0.061	0.037	0.011	0.019								
6.25	*0.005*	*-0.002*	0.006	0.009	0.080	0.023	0.016	0.025								
5.75	0.009	*0.002*	0.007	*0.002*	0.112	0.058	0.020	0.028								
5.25	*0.005*	0.005	*0.001*	0.005	0.101	0.123	0.026	0.037								
4.75	0.013	0.007	0.005	*0.003*	0.150	0.094	0.011	0.032								
4.25	0.070	0.016	*-0.001*	0.009	0.180	0.181	0.037	0.030								
3.75	0.073	0.018	0.018	0.022	0.213	0.178	0.031	0.027								
3.25	0.028	0.025	0.027	0.017	0.285	0.230	0.050	0.027								
2.75	0.027	0.026	0.034	0.046	0.430	0.262	0.044	0.034								
2.25	0.056	0.024	0.041	0.046	0.433	0.226	0.042	0.056								
1.75	0.067	0.080	0.095	0.076	0.443	0.248	0.057	0.054								
1.25	0.102	0.099	0.126	0.220	0.574	0.255	0.063	0.059								
0.75	0.161	0.126	0.246	0.292	0.817	0.450	0.088	0.050								
0.25	0.184	0.146	0.333	0.368	1.034	0.598	0.077	0.086								

At 10 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.005		0.004		0.006									
9.75	0.010	0.016	*0.002*	0.026	0.028	0.036	*0.002*	*0.002*								
9.25	0.007	*0.001*	*-0.001*	0.010	0.048	0.051	*0.001*	0.011								
8.75	*0.004*	*-0.001*	*0.001*	*0.003*	0.039	0.025	*0.005*	*0.002*								
8.25	*0.005*	*-0.003*	*0.000*	*0.003*	0.040	0.046	*-0.002*	0.008								
7.75	*0.003*	*-0.002*	0.005	*0.004*	0.070	0.038	*0.000*	*0.003*								
7.25	*0.004*	*0.000*	0.007	0.010	0.064	0.063	0.008	0.011								
6.75	0.008	0.017	*0.001*	0.006	0.068	0.047	*0.001*	*0.006*								
6.25	0.016	0.007	*0.003*	0.005	0.070	0.064	0.012	0.019								
5.75	0.030	0.025	0.006	0.008	0.144	0.090	0.008	0.022								
5.25	0.039	0.023	*-0.001*	0.009	0.155	0.105	0.010	0.015								
4.75	0.046	0.029	0.007	0.012	0.255	0.182	0.018	0.016								
4.25	0.038	0.035	0.017	0.007	0.251	0.152	*0.006*	0.016								
3.75	0.042	0.034	0.005	0.033	0.312	0.249	*0.006*	*0.004*								
3.25	0.055	0.035	0.021	0.019	0.269	0.302	0.013	0.020								
2.75	0.052	0.061	0.035	0.031	0.316	0.337	0.009	0.012								
2.25	0.074	0.051	0.035	0.032	0.590	0.412	0.012	0.018								
1.75	0.111	0.083	0.056	0.045	0.437	0.491	0.017	0.018								
1.25	0.143	0.112	0.070	0.070	0.619	0.497	0.016	0.027								
0.75	0.126	0.159	0.081	0.090	0.702	0.479	0.021	0.038								
0.25	0.179	0.111	0.083	0.122	0.913	0.617	0.043	0.050								

At 15 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.005		0.004		0.006									
9.75	*0.004*	*0.001*	0.010	*0.001*	0.027	0.023	0.009	0.013								
9.25	*0.002*	0.010	*-0.001*	*0.004*	0.037	0.035	0.011	0.007								
8.75	0.005	*0.002*	*-0.001*	*0.000*	0.066	0.036	0.021	0.009								
8.25	*0.002*	0.007	*-0.001*	*-0.001*	0.024	0.065	0.007	0.008								
7.75	*0.005*	0.012	*0.002*	*0.001*	0.038	0.067	*0.004*	0.008								
7.25	0.017	0.017	*0.003*	*-0.001*	0.040	0.164	0.070	0.013								
6.75	0.020	0.006	0.006	*0.002*	0.055	0.121	*0.006*	*0.006*								
6.25	0.011	0.012	*0.000*	*0.003*	0.045	0.115	0.018	0.010								
5.75	0.021	0.024	*0.003*	0.005	0.048	0.089	0.015	0.010								
5.25	0.022	0.029	0.009	0.007	0.068	0.101	0.015	0.021								
4.75	0.030	0.030	0.015	0.021	0.078	0.078	0.029	*0.006*								
4.25	0.055	0.037	0.030	0.025	0.128	0.756	0.016	0.008								
3.75	0.049	0.025	0.023	0.026	0.110	0.182	0.021	0.019								
3.25	0.041	0.026	0.025	0.018	0.172	0.168	0.016	0.024								
2.75	0.075	0.046	0.033	0.023	0.236	0.292	0.010	0.017								
2.25	0.084	0.083	0.025	0.021	0.248	0.245	0.014	0.025								
1.75	0.105	0.063	0.029	0.027	0.473	0.441	0.021	0.023								
1.25	0.091	0.094	0.030	0.040	0.539	0.560	0.020	0.028								
0.75	0.115	0.072	0.064	0.047	0.579	0.610	0.030	0.033								
0.25	0.109	0.121	0.071	0.037	0.850	0.973	0.020	0.054								

At 25 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.005		0.004		0.010									
9.75	*0.002*	0.012	*0.001*	*-0.001*	0.040	0.032	0.112	*-0.014*								
9.25	*0.002*	*0.003*	*-0.001*	*-0.004*	0.059	0.019	0.150	0.189								
8.75	*0.005*	0.015	*0.001*	*-0.001*	0.060	0.044	0.186	0.137								
8.25	0.010	*-0.001*	*0.001*	*0.000*	0.043	0.023	0.150	0.128								
7.75	0.006	*0.005*	*-0.002*	0.006	0.061	0.069	0.151	0.163								
7.25	*0.005*	*0.003*	*0.000*	*-0.001*	0.082	0.068	0.136	0.195								
6.75	0.009	0.005	0.010	*-0.001*	0.086	0.051	0.176	0.222								
6.25	0.025	0.007	0.006	0.007	0.088	0.076	0.196	0.153								
5.75	0.013	0.019	0.007	0.006	0.091	0.098	0.195	0.194								
5.25	0.021	0.008	0.015	0.012	0.100	0.075	0.159	0.229								
4.75	0.014	0.019	0.012	0.016	0.152	0.113	0.233	0.209								
4.25	0.027	0.017	0.011	0.011	0.157	0.117	0.240	0.231								
3.75	0.015	0.018	0.014	0.011	0.114	0.107	0.211	0.200								
3.25	0.025	0.045	0.019	0.012	0.168	0.078	0.214	0.136								
2.75	0.042	0.023	0.024	0.030	0.166	0.117	0.167	0.221								
2.25	0.048	0.038	0.029	0.030	0.166	0.108	0.187	0.343								
1.75	0.073	0.047	0.042	0.036	0.232	0.154	0.207	0.323								
1.25	0.078	0.071	0.056	0.029	0.219	0.191	0.161	0.265								
0.75	0.069	0.055	0.043	0.055	0.313	0.188	0.265	0.278								
0.25	0.064	0.045	0.049	0.077	0.283	0.281	0.248	0.373								

At 35 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.005		0.004		0.006									
9.75	0.008	0.007	*-0.001*	*-0.003*	0.033	0.031	0.019	0.011								
9.25	*0.005*	*0.005*	*0.000*	*-0.002*	0.031	0.038	0.012	0.009								
8.75	0.017	*0.001*	*-0.002*	*0.003*	0.045	0.052	0.011	0.013								
8.25	0.032	*0.003*	0.005	*0.000*	0.048	0.044	0.023	0.009								
7.75	0.020	0.012	*0.000*	*0.000*	0.063	0.067	0.018	0.015								
7.25	0.046	0.008	*0.003*	*0.002*	0.074	0.055	0.025	0.011								
6.75	0.025	0.014	*0.004*	*0.000*	0.081	0.066	0.026	0.013								
6.25	0.016	0.010	*0.002*	*0.003*	0.081	0.061	0.021	0.023								
5.75	0.022	0.011	*0.004*	0.005	*	0.099	0.017	0.019								
5.25	0.031	0.010	0.005	0.010	0.085	0.080	0.016	0.014								
4.75	0.022	0.024	0.012	0.007	0.070	0.115	0.023	0.015								
4.25	0.025	0.012	0.006	0.012	0.116	0.075	0.013	0.018								
3.75	0.058	0.021	0.007	0.011	0.116	0.122	0.013	0.015								
3.25	0.053	0.013	0.010	0.014	0.162	0.161	0.023	0.018								
2.75	0.053	0.018	0.014	0.021	0.129	0.156	0.027	0.017								
2.25	0.036	0.027	0.017	0.030	0.146	0.129	0.044	0.011								
1.75	0.059	0.042	0.025	0.038	0.164	0.132	0.038	0.021								
1.25	0.092	0.038	0.025	0.029	0.135	0.129	0.069	0.015								
0.75	0.065	0.043	0.041	0.050	0.122	0.202	0.017	0.023								
0.25	0.057	0.049	0.041	0.044	0.208	0.199	0.045	0.027								

At 50 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.005		0.004		0.007									
9.75	0.010	0.014	0.006	*0.000*	0.034	0.022	*0.003*	0.011								
9.25	0.020	0.019	*0.002*	*0.000*	0.020	0.029	*0.006*	0.010								
8.75	0.014	0.010	*0.002*	*0.002*	0.025	0.027	*0.005*	*-0.006*								
8.25	0.013	0.033	*0.004*	*0.000*	0.033	0.027	*0.006*	0.019								
7.75	0.019	0.020	*-0.002*	*-0.001*	0.025	0.026	0.008	0.010								
7.25	0.012	0.010	0.022	*0.003*	0.029	0.038	0.016	0.013								
6.75	0.017	0.024	0.005	*0.003*	0.026	0.038	0.009	0.012								
6.25	0.023	0.010	*0.003*	*0.004*	0.035	0.064	0.023	0.009								
5.75	0.021	0.032	*0.005*	*0.002*	0.035	0.043	0.014	*0.006*								
5.25	0.025	0.014	*0.004*	*0.002*	0.049	0.045	0.018	0.025								
4.75	0.030	0.032	0.010	0.013	0.063	0.065	0.014	0.011								
4.25	0.045	0.022	0.009	0.009	0.052	0.086	0.014	0.016								
3.75	0.017	0.031	0.016	0.006	0.066	0.073	0.019	0.017								
3.25	0.057	0.058	0.009	0.010	0.059	0.094	0.015	0.012								
2.75	0.042	0.041	0.006	0.024	0.056	0.084	0.018	0.015								
2.25	0.056	0.034	0.017	0.011	0.100	0.075	0.021	0.019								
1.75	0.035	0.036	0.020	0.011	0.087	0.106	0.019	0.007								
1.25	0.041	0.038	0.019	0.027	0.127	0.096	0.013	0.022								
0.75	0.030	0.048	0.039	0.041	0.132	0.143	0.014	0.020								
0.25	0.029	0.048	0.024	0.035	0.184	0.121	0.040	0.020								

XLTD11004 spraying an onion crop

At 5 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.006		0.007		0.007		0.008		0.011		0.011		0.011		0.011	
9.75	0.051	0.023	0.038	0.032	0.070	0.105	0.030	0.017	0.024	0.012	0.107	0.043	0.046	0.029	*0.002*	*0.004*
9.25	0.062	0.018	0.031	0.037	0.118	0.168	0.039	0.023	0.049	0.018	0.037	0.251	0.085	0.026	0.010	0.014
8.75	0.036	0.030	0.037	0.036	0.215	0.189	0.053	0.030	0.024	0.024	0.039	0.036	0.061	0.043	*0.004*	0.014
8.25	0.071	0.047	0.045	0.036	0.238	0.312	0.128	0.044	0.028	0.014	0.030	0.071	0.088	0.033	0.013	0.015
7.75	0.064	0.041	0.037	0.036	0.244	0.288	0.033	0.037	0.017	0.013	0.061	0.098	0.050	0.074	0.023	0.046
7.25	0.085	0.059	0.040	0.030	0.222	0.348	0.064	0.054	0.021	0.007	0.052	0.031	0.078	0.070	0.011	0.050
6.75	0.110	0.072	0.049	0.037	0.235	0.338	*	0.066	0.021	0.022	0.031	0.083	0.040	0.081	0.015	0.032
6.25	0.033	0.058	0.055	0.046	0.300	0.358	0.067	0.061	0.024	0.035	0.066	0.078	0.062	0.094	0.056	0.058
5.75	0.123	0.084	0.059	0.053	0.316	0.397	0.065	0.099	0.046	0.038	0.067	0.081	0.080	0.063	0.172	0.053
5.25	0.109	0.099	0.072	0.052	0.422	0.480	0.087	0.103	0.081	0.079	0.139	0.139	0.127	0.104	0.130	0.151
4.75	0.118	0.113	0.111	0.088	0.558	0.618	0.111	0.131	0.083	0.088	0.126	0.141	0.123	0.126	0.120	0.089
4.25	0.160	0.115	0.098	0.100	0.747	0.705	0.191	0.162	0.078	0.066	0.105	0.243	0.117	0.153	0.197	0.286
3.75	0.159	0.143	0.094	0.094	0.671	0.734	0.214	0.136	0.111	0.146	0.114	0.190	0.210	0.340	0.252	0.336
3.25	0.184	0.139	0.123	0.085	1.014	1.366	0.441	0.288	0.194	0.166	0.143	0.293	0.162	0.281	0.318	0.222
2.75	0.186	0.189	0.129	0.109	1.294	1.302	0.521	0.558	0.186	0.247	0.228	0.259	0.268	0.320	0.503	0.342
2.25	0.205	0.178	0.112	0.100	1.353	1.402	0.833	0.840	0.397	0.569	0.254	0.220	0.220	0.387	0.390	0.453
1.75	0.230	0.266	0.112	0.104	0.883	1.833	0.636	0.923	0.697	0.898	0.324	0.426	0.383	0.490	0.389	0.339
1.25	0.293	0.225	0.117	0.080	1.395	1.800	1.747	1.664	0.900	1.477	0.613	0.562	0.683	0.749	0.707	0.542
0.75	0.311	0.344	0.132	0.135	0.950	0.911	3.061	3.460	1.566	1.831	0.748	0.758	0.603	0.620	0.372	0.552
0.25	0.490	0.529	0.163	0.125	1.134	1.381	3.923	2.554	1.420	2.563	1.643	0.736	0.856	1.058	0.328	0.630

At 10 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.006		0.007		0.007		0.008		0.011		0.011		0.011		0.011	
9.75	0.027	0.019	0.048	0.032	*0.004*	0.017	0.025	0.039	0.048	0.038	0.023	0.021	0.125	0.057	0.015	0.028
9.25	0.023	0.035	0.053	0.039	*0.007*	0.015	0.038	0.027	0.022	0.041	*0.009*	0.026	0.077	0.032	0.025	0.019
8.75	0.040	0.037	0.049	0.033	0.012	0.009	0.046	0.029	0.037	0.038	0.013	0.019	0.081	0.079	*0.006*	*0.009*
8.25	0.066	0.050	0.037	0.022	0.009	0.010	0.051	0.055	0.015	0.013	*0.010*	0.018	0.130	0.061	0.021	0.016
7.75	0.033	0.042	0.023	0.039	0.019	0.027	0.043	0.058	0.018	0.030	0.028	0.019	0.098	0.073	0.026	0.035
7.25	0.045	0.053	0.045	0.044	0.010	0.013	0.089	0.058	0.037	0.031	0.016	0.020	0.097	0.114	0.057	0.042
6.75	0.056	0.047	0.031	0.022	0.010	0.010	0.072	0.081	0.027	0.024	0.019	0.019	0.120	0.070	0.034	0.038
6.25	0.071	0.069	0.038	0.036	0.022	0.017	0.066	*	0.038	0.061	0.015	0.011	0.132	0.111	0.054	0.064
5.75	0.072	0.053	0.053	0.028	0.039	0.019	0.086	0.112	0.046	0.032	0.063	0.019	0.132	0.124	0.136	0.072
5.25	0.082	0.054	0.078	0.046	0.035	0.034	0.084	0.085	0.058	0.056	0.026	0.017	0.131	0.169	0.157	0.134
4.75	0.072	0.087	0.057	0.070	0.028	0.043	0.135	0.063	0.102	0.053	0.041	0.028	0.232	0.300	0.268	0.135
4.25	0.090	0.098	0.046	0.074	0.024	0.033	0.094	0.096	0.120	0.116	0.040	0.023	0.283	0.508	0.244	0.179
3.75	0.067	0.114	0.063	0.070	0.043	0.041	0.104	0.116	0.126	0.113	0.043	0.020	0.523	0.383	0.271	0.323
3.25	0.089	0.140	0.055	0.085	0.053	0.043	0.104	0.121	0.142	0.129	0.031	0.026	0.521	0.580	0.355	0.364
2.75	0.105	0.130	0.100	0.076	0.068	0.078	0.130	0.156	0.131	0.104	0.028	0.039	0.624	0.686	0.406	0.287
2.25	0.116	0.134	0.088	0.087	0.063	0.101	0.173	0.130	0.212	0.203	0.047	0.046	0.683	0.720	0.460	0.345
1.75	0.164	0.315	0.110	0.090	0.096	0.107	0.168	0.130	0.203	0.222	0.071	0.043	0.777	0.859	0.437	0.427
1.25	0.233	0.178	0.105	0.093	0.089	0.194	0.227	0.144	0.211	0.199	0.091	0.063	1.012	0.701	0.532	0.441
0.75	0.247	0.282	0.111	0.116	0.095	0.154	0.156	0.126	0.229	0.212	0.064	0.072	1.163	0.853	0.504	0.400
0.25	0.272	0.279	0.067	0.132	0.105	0.245	0.194	0.115	0.310	0.296	0.166	0.153	0.769	0.747	0.429	0.321

At 15 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.006		0.007		0.007		0.008		0.011		0.011		0.011		0.011	
9.75	0.034	0.029	0.044	0.036	0.019	0.014	0.031	0.019	0.027	0.024	*0.007*	*-0.003*	0.164	0.092	0.032	0.014
9.25	0.035	0.025	0.029	0.043	0.019	0.014	0.032	0.026	0.024	0.028	0.013	*0.008*	0.067	0.091	*0.007*	*0.006*
8.75	0.029	0.012	0.033	0.045	0.010	0.014	0.047	0.031	0.034	0.043	0.015	*0.005*	0.053	0.078	0.012	0.002
8.25	0.036	0.026	0.040	0.034	0.025	0.016	0.046	0.038	0.045	0.042	0.011	*-0.007*	0.063	0.058	0.017	0.010
7.75	0.036	0.033	0.026	0.027	0.018	0.014	0.052	0.042	0.029	0.058	0.031	*0.002*	0.099	0.098	0.026	0.007
7.25	0.048	0.042	0.029	0.037	0.017	0.014	0.036	0.061	0.032	0.041	0.026	*-0.001*	0.130	0.176	0.048	0.027
6.75	0.070	0.046	0.038	0.034	0.017	0.036	0.041	0.047	0.054	0.053	0.026	*-0.002*	0.158	0.175	0.035	0.034
6.25	0.057	0.029	0.045	0.025	0.020	0.017	0.034	0.037	0.037	0.058	0.041	*-0.001*	0.225	0.295	0.036	0.049
5.75	0.037	0.032	0.049	0.028	0.017	0.029	0.046	0.077	0.076	0.079	0.055	*0.004*	0.230	0.427	0.089	0.105
5.25	*	0.049	0.031	0.026	0.025	0.026	0.059	0.061	0.091	0.070	0.045	*0.003*	0.314	0.430	0.144	0.129
4.75	0.164	0.058	0.041	0.038	0.038	0.017	0.086	0.084	0.092	0.090	0.061	*0.002*	0.259	0.364	0.192	0.162
4.25	0.072	0.062	0.042	0.046	0.024	0.031	0.071	0.125	0.079	0.094	0.032	*0.000*	0.373	0.472	0.191	0.094
3.75	0.106	0.093	0.042	0.049	0.038	0.025	0.106	0.110	0.110	0.100	0.038	*0.002*	0.495	0.629	0.307	0.233
3.25	0.088	0.132	0.066	0.049	0.025	0.030	0.114	0.126	0.118	0.127	0.049	*0.008*	0.457	0.638	0.259	0.286
2.75	0.119	0.129	0.036	0.048	0.042	0.055	0.109	0.142	0.135	0.122	0.084	*0.002*	0.694	0.768	0.282	0.336
2.25	0.098	0.117	0.056	0.048	0.047	0.045	0.130	0.143	0.146	0.195	0.111	*0.003*	0.642	0.774	0.313	0.381
1.75	0.139	0.151	0.055	0.056	0.058	0.055	0.131	0.152	0.188	0.125	0.072	*0.003*	0.609	0.802	0.360	0.371
1.25	0.152	0.107	0.058	0.061	0.054	0.055	0.133	0.173	0.129	0.115	0.074	0.017	0.431	0.944	0.394	0.326
0.75	0.179	0.153	0.034	0.041	0.073	0.101	0.153	0.123	0.216	0.158	0.102	0.054	0.428	0.671	0.305	0.194
0.25	0.227	0.316	0.051	0.054	0.071	0.070	0.182	0.172	0.172	0.169	0.069	0.060	0.444	0.530	0.310	0.240

At 25 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.006		0.007		0.007		0.008		0.011		0.011		0.011		0.011	
9.75	0.029	0.018	0.032	0.049	0.020	0.017	0.039	0.056	0.020	0.017	0.011	*0.011*	0.076	0.083	0.055	0.020
9.25	0.021	0.016	0.044	0.033	0.015	0.015	0.031	0.033	0.029	0.024	0.014	*0.001*	0.111	0.066	0.079	0.024
8.75	0.019	0.026	0.038	0.055	0.017	0.007	0.046	0.036	0.020	0.034	*0.005*	*0.000*	0.114	0.111	0.025	0.046
8.25	0.016	0.015	0.044	0.047	0.019	0.019	0.051	0.047	0.017	0.034	*0.002*	*0.000*	0.125	0.103	0.022	0.044
7.75	0.037	0.008	0.041	0.041	0.018	0.020	0.034	0.039	0.016	0.024	*0.005*	*-0.006*	0.306	0.148	0.046	0.020
7.25	0.027	0.015	0.031	0.037	0.023	0.023	0.022	0.029	0.042	0.057	0.013	*0.001*	0.182	0.152	0.091	*0.006*
6.75	0.033	0.011	0.050	0.056	0.025	0.021	0.063	0.022	0.038	0.026	0.019	*0.009*	0.147	0.160	0.057	*0.006*
6.25	0.025	0.030	0.056	0.068	0.030	0.018	0.039	0.023	0.047	0.042	0.014	*0.000*	0.187	0.229	0.065	0.034
5.75	0.032	0.016	0.039	0.071	0.035	0.019	0.034	0.042	0.033	0.060	0.054	*0.004*	0.238	0.163	0.099	0.079
5.25	0.033	0.030	0.066	0.062	0.033	0.033	0.055	0.047	0.055	0.059	0.046	*0.004*	0.173	0.334	0.097	0.074
4.75	0.027	0.011	0.080	0.093	0.031	0.033	0.039	0.038	0.040	0.042	0.029	*0.005*	0.299	0.406	0.150	0.088
4.25	0.039	0.018	0.051	0.070	0.036	0.022	0.049	0.031	0.043	0.088	0.041	*0.002*	0.264	0.297	0.213	0.095
3.75	0.051	0.028	0.057	0.056	0.022	0.039	0.111	0.032	0.043	0.078	0.047	*0.004*	0.479	0.489	0.201	0.137
3.25	0.069	0.029	0.037	0.060	0.036	0.024	0.072	0.156	0.098	0.082	0.028	*0.004*	*	0.372	0.142	0.103
2.75	0.075	0.034	0.044	0.032	0.034	0.037	0.073	0.071	0.061	0.091	0.055	*0.006*	0.430	0.474	0.408	0.124
2.25	0.082	0.054	0.045	0.040	0.039	0.040	0.091	0.060	0.076	0.075	0.035	0.020	0.324	0.475	0.305	0.182
1.75	0.079	0.040	0.039	0.039	0.034	0.022	0.102	0.076	0.089	0.134	0.096	0.017	0.239	0.506	0.206	0.143
1.25	0.106	0.039	0.032	0.030	0.042	0.035	0.101	0.061	0.083	0.089	0.062	0.031	0.338	0.483	0.147	0.126
0.75	0.076	0.062	0.042	0.040	0.037	0.020	0.129	0.068	0.138	0.118	0.071	0.046	0.239	0.335	0.223	0.162
0.25	0.124	0.053	0.047	0.029	0.038	0.056	0.162	0.113	0.140	0.118	0.067	0.014	0.320	0.399	0.205	0.173

At 35 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.006		0.007		0.007		0.008		0.011		0.011		0.011		0.013	
9.75	0.036	0.058	0.013	0.024	0.008	0.014	0.035	0.031	0.058	0.030	*-0.002*	*0.002*	0.066	0.099	0.103	0.015
9.25	0.016	0.026	0.017	0.013	0.017	0.013	0.033	0.020	0.050	0.030	*0.000*	*-0.003*	0.170	0.096	0.022	0.040
8.75	0.025	0.022	0.029	0.038	0.016	0.021	0.022	0.040	0.060	0.034	*0.007*	*0.005*	0.123	0.096	0.044	0.031
8.25	0.019	0.018	0.029	0.024	0.011	0.020	0.036	0.046	0.034	0.043	0.011	*-0.001*	0.171	0.107	0.028	0.034
7.75	0.010	0.048	0.044	0.028	0.013	0.020	0.022	0.040	0.034	0.019	0.030	*0.000*	0.168	0.190	0.018	0.023
7.25	0.016	0.025	0.032	0.036	0.018	0.022	0.033	0.027	0.038	0.023	*0.003*	*0.003*	0.243	0.255	0.028	0.090
6.75	0.036	0.038	0.031	0.035	0.021	0.017	0.036	0.017	0.033	0.033	0.011	*0.010*	0.292	0.236	0.040	0.053
6.25	0.019	0.024	0.041	0.072	0.018	0.024	0.031	0.026	0.026	0.049	*0.002*	0.019	0.313	0.379	0.054	0.064
5.75	0.013	0.025	0.029	0.025	*	0.021	0.022	0.027	0.066	0.040	0.014	*0.004*	0.296	0.304	0.096	0.068
5.25	0.021	0.020	0.027	0.021	0.025	0.022	0.037	0.030	0.088	0.080	0.024	0.026	0.357	0.228	0.099	0.105
4.75	0.065	0.023	0.025	0.024	0.018	0.015	0.049	0.029	0.079	0.070	0.014	0.019	0.367	0.320	0.112	0.080
4.25	0.022	0.042	0.017	0.029	0.022	0.038	0.044	0.053	0.067	0.069	0.011	0.012	0.414	0.309	0.085	0.142
3.75	0.039	0.023	0.029	0.019	0.018	0.019	0.068	0.048	0.086	0.078	*0.006*	0.015	0.310	0.443	0.083	0.106
3.25	0.024	0.033	0.015	0.013	0.024	0.028	0.043	0.076	0.064	0.084	0.023	0.015	0.324	0.312	0.324	0.101
2.75	0.029	0.028	0.029	0.020	0.023	0.017	0.070	0.079	0.108	0.065	0.021	0.027	0.342	0.359	0.117	0.117
2.25	0.022	0.024	0.017	0.015	0.024	0.019	0.054	0.103	0.085	0.064	0.031	0.018	0.283	0.476	0.139	0.143
1.75	0.037	0.028	0.041	0.017	0.021	0.022	0.081	0.098	0.090	0.083	0.025	0.013	0.292	0.224	0.132	0.172
1.25	0.046	0.032	0.016	0.044	0.031	0.022	0.116	0.104	0.093	0.088	0.034	0.037	0.293	0.267	0.125	0.131
0.75	0.046	0.028	0.018	0.024	0.024	0.023	0.134	0.088	0.087	0.082	0.046	0.033	0.285	0.293	0.117	0.043
0.25	0.047	0.038	0.025	0.041	0.023	0.026	0.148	0.107	0.140	0.102	0.029	0.050	0.212	0.201	0.182	0.116

At 50 m distance from last nozzle

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.006		0.007		0.007		0.008		0.011		0.011		0.011		0.013	
9.75	0.040	0.016	0.024	0.018	0.015	0.012	0.036	0.016	0.039	0.018	*-0.004*	0.020	0.116	0.136	0.034	0.031
9.25	0.035	0.021	0.021	0.024	0.032	0.013	0.026	0.019	0.042	0.027	*-0.004*	*0.001*	0.074	0.124	0.048	0.016
8.75	0.053	0.025	0.027	0.024	0.032	0.018	0.028	0.020	0.033	0.025	*-0.005*	*0.003*	0.088	0.094	*0.001*	0.022
8.25	0.007	0.020	0.022	0.031	0.032	0.012	0.027	0.028	0.023	0.032	*0.002*	*0.011*	0.075	0.080	0.017	*0.004*
7.75	0.025	0.067	0.038	0.023	0.035	0.012	0.030	0.037	0.044	0.040	*0.001*	*0.006*	0.106	0.117	0.018	0.020
7.25	0.040	0.040	0.036	0.021	0.031	0.014	0.021	0.023	0.024	0.026	*0.000*	*0.003*	0.125	0.111	0.035	0.032
6.75	0.044	0.047	0.034	0.021	0.023	0.012	0.027	0.016	0.032	0.029	0.028	*0.000*	0.098	0.103	0.048	0.044
6.25	0.035	0.013	0.041	0.022	0.023	0.019	0.022	0.029	0.041	0.032	*0.000*	*0.006*	0.141	0.131	0.071	0.055
5.75	0.038	0.035	0.037	0.022	0.017	0.016	0.019	0.019	0.026	0.033	*0.004*	*0.005*	0.118	0.108	0.099	0.078
5.25	0.049	0.033	0.021	0.028	0.021	0.031	0.028	0.027	0.035	0.033	0.013	*0.006*	0.145	0.115	0.093	0.091
4.75	0.027	0.019	0.022	0.026	0.021	0.028	0.034	0.034	0.041	0.036	*0.006*	*0.008*	0.107	0.109	0.120	0.094
4.25	0.052	0.018	0.030	0.024	0.023	0.017	0.046	0.036	0.035	0.036	*0.004*	*0.009*	0.126	0.183	0.171	0.144
3.75	0.029	0.016	0.035	0.030	0.018	0.014	0.038	0.036	0.036	0.034	*0.003*	0.023	0.130	0.149	0.145	0.109
3.25	0.029	0.023	0.031	0.027	0.019	0.018	0.033	0.023	0.032	0.024	*0.009*	0.017	0.115	0.171	0.136	0.116
2.75	0.023	0.029	0.036	0.025	0.020	0.017	0.042	0.168	0.037	0.039	*-0.001*	0.023	0.119	0.222	0.126	0.123
2.25	0.016	0.023	0.030	0.035	0.044	0.027	0.037	0.042	0.037	0.029	0.018	*0.007*	0.110	0.189	0.184	0.129
1.75	0.018	0.032	0.028	0.029	0.046	0.015	0.055	0.048	0.030	0.029	*0.008*	0.032	0.086	0.133	0.142	0.193
1.25	0.037	0.095	0.020	0.025	0.032	0.021	0.047	0.072	0.058	0.042	0.019	0.041	0.077	0.097	0.169	0.201
0.75	0.031	0.026	0.039	0.023	0.028	0.018	0.055	0.037	0.061	0.050	0.020	0.030	0.092	0.097	0.117	0.176
0.25	0.020	0.022	0.042	0.049	0.030	0.022	0.095	0.090	0.076	0.059	0.015	0.105	0.076	0.149	0.175	0.211

Annex 6 Airborne spray drift (% of applied spray volume per unit area) – active measurement; suction head collectors

XR11004 spraying bare soil surface area

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.004		0.004		0.004		0.006		0.006							
5 m																
6.00	0.437	0.500	0.869	0.806	0.655	0.548	2.437	2.169	6.515	6.873						
5.00	0.752	1.290	1.372	1.087	0.919	0.837	3.488	3.707	7.821	7.729						
4.00	2.034	2.317	2.110	2.251	1.426	1.403	4.800	5.355	9.392	9.226						
3.00	3.101	3.322	4.009	3.291	2.282	2.179	8.116	6.885	11.205	9.806						
2.00	6.769	6.326	5.921	5.332	2.766	2.684	10.424	10.231	10.127	12.359						
1.00	9.379	8.933	9.434	8.872	4.156	3.752	10.790	10.237	16.359	17.470						
0.65	9.908	9.749	11.887	11.369	5.555	5.361	10.213	11.192	15.701	17.099						
0.25	11.142	10.898	15.793	13.787	7.192	7.373	12.228	11.803	15.272	16.120						
15 m																
6.00	0.565	0.546	2.978	2.741	1.198	0.996	3.915	4.012	3.164	3.315						
5.00	1.164	1.352	3.835	3.657	1.798	1.622	4.544	5.621	2.984	3.176						
4.00	2.072	2.118	4.367	4.144	1.901	2.005	7.094	6.381	3.834	3.530						
3.00	2.610	2.889	8.031	6.065	2.149	2.423	9.047	7.864	3.880	3.158						
2.00	5.144	5.606	5.469	8.407	3.606	3.784	8.972	9.279	5.106	5.046						
1.00	9.615	8.809	12.978	11.369	5.117	4.907	8.928	9.196	5.364	5.444						
0.65	8.774	9.502	13.947	13.475	5.303	5.537	9.189	9.633	6.273	6.285						
0.25	11.457	11.873	16.938	16.275	6.324	5.664	9.446	11.355	6.331	7.228						
50 m																
6.00	1.722	1.447	1.066	0.906	1.329	1.262	1.346	1.744	1.748	1.838						
5.00	1.742	1.558	1.210	1.104	1.673	1.484	1.725	2.091	1.686	1.770						
4.00	1.769	1.513	1.520	1.571	1.755	1.538	1.693	1.727	1.538	1.472						
3.00	1.876	1.664	2.158	2.291	2.076	1.929	1.982	1.908	1.769	1.405						
2.00	2.528	2.141	2.561	2.335	2.402	2.353	1.519	1.617	1.632	1.468						
1.00	3.463	3.936	2.810	3.334	3.544	3.332	1.151	1.361	2.055	1.598						
0.65	4.374	4.105	3.087	3.279	3.906	3.799	1.238	1.324	1.892	2.078						
0.25	5.144	4.519	3.383	3.405	4.351	3.732	1.016	1.070	1.446	1.574						

XR11004 spraying an onion crop

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.006		0.006		0.008		0.008		0.009		0.010		0.010	
5 m																
6.00	2.352	2.425	13.872	14.420	2.885	3.623	9.310	10.829	1.566	1.809	0.300	0.420	0.415	0.347	1.400	1.438
5.00	2.598	2.508	13.850	12.388	4.028	4.463	11.742	13.039	2.644	2.738	0.637	0.718	0.917	0.982	2.636	2.840
4.00	3.816	3.572	15.583	15.279	6.102	6.708	18.192	16.690	4.496	5.155	2.766	2.993	2.643	2.259	4.966	5.549
3.00	7.876	7.606	18.446	21.241	8.014	8.961	19.962	26.767	7.234	9.813	8.162	9.261	6.120	5.842	7.520	10.020
2.00	14.193	12.856	25.454	23.585	14.579	13.255	26.161	24.550	16.184	18.292	25.414	18.487	12.291	10.598	18.176	19.675
1.00	18.521	21.876	31.168	30.000	17.527	15.878	28.429	24.925	20.220	22.824	41.322	37.891	22.350	18.891	23.738	23.513
0.65	21.920	23.549	34.182	32.794	18.239	16.046	28.393	27.494	25.429	28.833	47.728	47.095	32.267	26.192	26.921	23.918
0.25	23.266	25.577	34.097	33.843	19.055	18.778	29.750	31.839	35.228	39.384	65.159	57.000	35.738	31.689	27.282	31.395
15 m																
6.00	3.094	3.070	7.136	7.213	2.972	3.295	18.614	18.995	4.002	4.015	0.479	0.583	0.801	0.848	4.186	2.833
5.00	2.983	3.354	8.518	7.973	4.388	4.802	21.037	18.520	6.078	5.584	1.597	1.383	1.749	1.772	6.109	5.350
4.00	4.529	5.546	9.764	10.052	7.291	7.508	17.790	19.523	10.810	10.107	2.470	2.941	3.831	3.366	8.146	7.665
3.00	7.784	10.222	10.694	12.379	8.578	10.073	18.773	21.952	14.535	12.728	6.548	7.390	5.920	5.724	10.640	9.636
2.00	11.676	13.748	11.880	11.307	12.912	12.246	17.820	21.020	16.837	16.279	16.223	16.704	10.572	11.041	17.909	8.181
1.00	15.293	16.396	12.376	14.077	16.229	16.414	18.761	18.571	20.203	17.898	27.422	28.787	18.694	20.911	19.924	23.024
0.65	18.121	16.195	12.618	12.351	17.340	16.484	16.953	20.751	22.078	19.462	30.478	30.303	19.974	20.461	22.446	22.885
0.25	15.439	15.706	12.919	11.931	18.647	19.440	19.095	21.004	20.379	19.964	35.844	40.058	21.220	21.941	25.628	26.119
50 m																
6.00	4.121	3.833	2.102	2.307	3.858	3.812	1.931	1.912	2.522	2.406	2.782	2.324	1.556	1.399	7.033	8.232
5.00	3.719	4.038	2.281	2.193	4.636	4.323	1.991	1.984	2.984	2.852	4.150	3.474	2.412	2.189	8.236	9.850
4.00	3.862	4.123	2.077	2.229	5.171	4.647	2.227	2.168	3.400	3.180	7.840	7.156	5.593	3.717	10.287	10.627
3.00	4.252	4.715	1.636	1.826	5.461	6.152	2.065	2.162	3.655	3.481	9.961	11.654	3.895	5.289	12.499	13.436
2.00	5.288	5.322	1.475	1.616	6.403	5.904	2.207	2.216	5.403	5.163	11.486	11.356	8.373	6.945	15.832	16.005
1.00	5.618	5.314	1.425	1.543	6.624	7.315	1.911	1.937	6.381	6.737	13.222	13.958	10.053	9.166	17.853	18.169
0.65	5.303	4.884	1.695	1.749	6.999	6.600	1.857	2.088	6.093	7.336	14.418	13.882	9.452	9.963	16.910	18.191
0.25	4.873	4.859	1.572	1.606	6.945	6.791	1.727	1.649	6.340	6.877	13.709	14.640	9.495	9.551	18.034	16.896

XLTD11004 spraying bare soil surface area

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.004		0.004		0.004		0.006									
5 m																
6.00	0.093	0.118	0.121	0.124	0.116	0.109	0.335	0.324								
5.00	0.187	0.213	0.093	0.138	0.133	0.155	0.431	0.383								
4.00	0.268	0.289	0.224	0.277	0.186	0.231	0.496	0.488								
3.00	0.406	0.388	0.349	0.315	0.303	0.333	0.690	0.580								
2.00	0.554	0.589	0.501	0.453	0.410	0.509	0.915	0.816								
1.00	0.792	0.875	0.793	0.775	0.625	0.602	0.927	0.943								
0.65	1.243	1.200	1.206	0.899	0.761	0.751	1.068	1.170								
0.25	1.525	1.571	1.278	1.058	1.087	1.001	1.298	1.378								
15 m																
6.00	0.159	0.160	0.121	0.160	0.201	0.177	0.593	0.480								
5.00	0.176	0.141	0.128	0.141	0.255	0.248	0.497	0.544								
4.00	0.243	0.176	0.172	0.176	0.310	0.362	0.526	0.558								
3.00	0.285	0.188	0.192	0.188	0.415	0.432	0.596	0.494								
2.00	0.424	0.300	0.305	0.300	0.515	0.528	0.904	0.808								
1.00	0.823	0.528	0.627	0.528	0.725	0.642	1.000	0.975								
0.65	0.945	0.703	0.808	0.703	0.685	0.697	1.024	0.966								
0.25	0.943	1.021	1.002	1.021	0.845	0.790	1.176	1.215								
50 m																
6.00	0.276	0.278	0.098	0.097	0.161	0.224	0.237	0.593								
5.00	0.323	0.288	0.133	0.094	0.216	0.279	0.252	0.497								
4.00	0.350	0.390	0.127	0.131	0.241	0.258	0.294	0.526								
3.00	0.419	0.454	0.214	0.259	0.313	0.345	0.354	0.596								
2.00	0.594	0.552	0.317	0.229	0.365	0.319	0.321	0.904								
1.00	0.749	0.647	0.410	0.375	0.375	0.358	0.321	1.000								
0.65	0.805	0.756	0.550	0.524	0.361	0.364	0.330	1.024								
0.25	0.885	0.801	0.750	0.731	0.416	0.363	0.341	1.176								

XLTD11004 spraying an onion crop

Height	1		2		3		4		5		6		7		8	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Tv	0.005		0.006		0.006		0.008		0.008		0.009		0.010		0.010	
5 m																
6.00	1.005	1.015	0.582	0.677	0.967	0.894	1.893	1.992	0.822	0.861	0.316	0.335	0.350	0.334	0.548	0.536
5.00	1.260	1.302	0.552	0.612	1.403	1.114	2.286	1.952	1.261	1.368	0.357	0.344	0.504	0.489	0.991	0.917
4.00	1.332	1.360	0.604	0.615	1.645	1.348	2.465	2.540	2.017	1.914	0.504	0.507	0.728	0.712	1.355	1.487
3.00	1.662	1.742	0.797	0.917	2.299	2.415	3.358	3.999	2.756	3.843	0.653	0.941	1.080	1.377	1.952	2.436
2.00	3.028	3.051	1.629	1.453	3.433	3.160	6.055	5.835	4.232	4.018	0.982	1.069	1.850	1.721	3.228	3.255
1.00	3.447	3.546	1.780	1.710	3.645	3.106	6.461	5.327	4.004	3.980	1.166	1.278	2.122	1.905	2.836	3.062
0.65	3.986	4.452	1.885	2.242	3.448	3.142	6.853	6.440	4.305	4.197	1.275	1.385	2.199	2.014	3.368	3.309
0.25	4.932	4.500	1.926	2.165	3.123	3.263	3.405	6.270	5.079	4.794	1.597	1.682	2.263	2.128	3.127	3.955
15 m																
6.00	0.918	0.779	0.659	0.653	0.931	0.847	2.110	1.717	1.248	1.076	0.389	0.347	0.493	0.481	0.674	0.664
5.00	0.909	0.960	0.626	0.564	0.867	0.780	2.013	2.056	1.413	1.505	0.322	0.524	0.664	0.672	0.941	0.944
4.00	1.010	1.129	0.570	0.586	1.029	1.131	2.192	2.230	2.645	2.626	0.510	0.567	1.052	1.015	1.172	1.191
3.00	1.151	1.371	0.587	0.589	1.348	1.273	2.521	2.353	3.349	2.974	0.684	0.634	1.375	1.271	1.644	1.930
2.00	1.564	1.587	0.844	0.840	1.750	1.404	3.356	3.653	3.605	3.723	0.626	0.882	1.750	1.627	2.866	2.706
1.00	2.198	2.225	1.002	1.228	1.986	1.600	3.996	3.525	4.087	4.248	0.993	0.979	2.283	2.358	2.763	3.025
0.65	2.466	2.329	1.414	1.405	2.186	1.881	4.308	3.727	4.075	4.576	1.026	0.877	2.510	2.461	2.799	2.748
0.25	2.287	2.297	1.569	1.447	1.610	1.635	4.129	3.801	3.979	3.455	1.130	1.153	2.701	2.729	2.518	2.685
50 m																
6.00	0.663	0.486	0.765	0.685	0.429	0.414	0.641	0.602	0.855	0.884	0.207	0.169	1.214	1.085	0.541	0.576
5.00	0.508	0.537	0.713	0.657	0.548	0.329	0.562	0.496	0.802	0.834	0.302	0.245	1.399	1.222	0.505	0.639
4.00	0.610	0.533	0.687	0.670	0.496	0.324	0.579	0.543	0.766	0.808	0.228	0.248	1.465	1.309	0.562	0.528
3.00	0.606	0.674	0.705	0.666	0.384	0.283	0.696	0.527	0.818	0.833	0.370	0.385	1.534	1.570	0.722	0.804
2.00	0.754	0.834	0.550	0.632	0.357	0.415	0.620	0.741	0.985	0.882	0.586	0.550	1.600	1.514	1.083	1.189
1.00	0.817	0.682	0.561	0.490	0.303	0.357	0.723	0.767	0.848	0.889	0.759	0.724	1.611	1.434	1.170	1.272
0.65	0.727	0.737	0.525	0.510	0.351	0.360	0.837	0.759	0.959	1.004	0.809	0.774	1.605	1.637	1.340	1.438
0.25	0.618	0.718	0.465	0.516	0.368	0.432	0.940	0.784	0.898	0.978	0.804	0.850	1.564	1.510	1.295	1.211

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Report WPR-756

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Report WPR-756

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