

**Mitteilungen aus der Biologischen Bundesanstalt  
für Land- und Forstwirtschaft  
Berlin-Dahlem**

**Studies on the spray drift of plant protection  
products**

**Results of a test program carried out throughout the  
Federal Republic of Germany**

by

**Dr.-Ing. Heinz Ganzelmeier**

**Dirk Rautmann**

**Rüdiger Spangenberg**

**Dr. Martin Strelöke**

Federal Biological Research Centre for Agriculture and Forestry,  
Braunschweig, FRG

**Dr. Michael Herrmann**

Federal Environmental Office, Berlin, FRG

**Dr. Hans-Jürgen Wenzelburger**

**Dr. Hans-Friedrich Walter**

Federation of Agrochemical Industries, Frankfurt, FRG

**Table of contents**

Foreword	5
1. Summary	7
2. Introduction	10
3. Objective of the studies	12
4. Methods	14
5. Trial program	17
6. Evaluation of the drift results	25
7. Consideration of the basic drift values in the autorihation procedure	41
List of references	49
Annex	
A Results of the drift trials in field crops	A1-A8
B Results of the drift trials in grapevine	B1-B11
C Results of the drift trials in fruit crops	C1-C31
D Results of the drift trials in hops	D1-D11



**Foreword:**

The Biologische Bundesanstalt für Land- und Forstwirtschaft (BBA) must take the spray drift during the application of plant protection products into consideration in the authorization procedure for plant protection products and in the examination of equipment for the application of plant protection products.

Measurements of the spray drift have been carried out in the past in many places, however, the results are not useful as a basis for authorization purposes because the test procedures were not harmonized and the techniques used to measure the spray drift were very variable.

Within the scope of a coordinated spray drift measurement program throughout the Federal Republic of Germany (FRG), comprehensive drift measurements have been carried out in accordance with a "Drift Guideline" of the BBA in order to allow a more reliable assessment of possible hazards - particularly for aquatic organisms - in the authorization procedure.

In this connection the engagement of the Industrieverband Agrar with some of its member companies and of various offices of the official Crop Protection Service being especially equipped for the measurement of spray drift should be emphasized particularly.

The results of these measurements were discussed together with the Bundesgesundheitsamt (Federal Health Office), now Bundesinstitut für gesundheitlichen Verbraucherschutz und Veterinärmedizin (Federal Institute for Health Protection of Consumers and Veterinary Medicine) and the Umweltbundesamt (Federal Environmental Office) who are part of the authorization procedure for plant protection products as "Authorities of Consent" (i.e. authorities, who have to declare their consent with the authorization), and as a result of these discussions scientifically validated basic drift values were established for the authorization procedure.

The exposure to plant protection products, which are expected to be carried into surface waters by spray drift, is assessed on this basis. By the same token the regulations concerning distances to be maintained between waters and sprayed areas for the prevention of negative effects on the aquatic biocoenosis are also put on a new basis.

My particular thanks are expressed to the members of this drift working group and the authors who carried out these trials, discussed them with a great amount of engagement, evaluated the results and summarized them in this brochure. The following persons were involved:

Mr Bachmann, Dr. Bäcker, Dr. Crüger, Dr. Edlich,  
Prof. Dr. Eichhorn †, Dr. Englert, Dr. Fritsch,  
Dr.-Ing. Ganzelmeier, Dr. Goedicke, Dr. Gottschalk,  
Dr. Gottschild, Mr Gröner, Dr. Hans, Dr. Herrmann, Mr Ipach,  
Dr. Keim, Dr. Kersting, Dr. Klein, Dr.-Ing. Kohsieck,  
Mr Köpp, Dr. Kördel, Mr Krebs, Mr Kroker, Dr. Maasfeld,  
Dr. Nau, Dr. Nolting, Dr. Pick, Dr. Pflüger, Mr Rautmann,  
Mr Roßbauer, Dr. Rothert, Dr. Schmider, Mr Schmidt,  
Mr Spangenberg, Dr. Streloke, Dr. Walter, Dr. Wenzelburger,  
Dr. Weritz.

The present paper shall contribute to the publication of these drift results beyond the borders of Germany so that they can be used in exposure assessments also in other areas.

Braunschweig, January 1995

Prof. Dr. Fred Klingauf  
President of the Federal  
Biological Research Centre for  
Agriculture and Forestry

## 1. Summary

During the years from 1989 until 1992, 119 drift measurements in field crops (cereals excluding maize), grapevine, fruit crops (mainly apple orchards) and hops were carried out in accordance with the "Drift Guideline" of the Federal Biological Research Centre for Agriculture and Forestry (BBA) in Braunschweig by plant protection product manufacturers and agencies of the official Crop Protection Service in a measurement program being coordinated throughout the Federal Republic of Germany. These studies had become necessary in order to replace the unsatisfactory data base by new scientifically founded results of measurement.

The BBA together with the Federal Institute for Health Protection of Consumers and Veterinary Medicine and the Federal Environmental Office as authorities who have to declare their consent with the authorization, are in need of results of drift measurements in order to allow a reliable assessment of the exposure of areas or waters adjacent to the treated area. This assessment must be made within the scope of the authorization procedure for plant protection products. This is because according to § 15 of the Plant Protection Act, plant protection products can only be authorized a.o. under the condition that based on the latest scientific knowledge no untolerable effects on the environment are to be expected.

Results of drift measurements carried out in previous years could not be included into this program since the measurements had been carried out under different general conditions and based on other problems to be solved. The drift measurement program in question comprises 16 drift trials for field crops (8/8), 21 trials for grapevine (10/11), 61 trials for fruit crops (31/30) and 21 trials for hops (9/12). The figures in parenthesis indicate the number of trials carried out at the beginning of vegetation or in the early growth stage of the crop and at the end of the vegetation. The other test conditions (settings of the instrument, weather, etc.) are within the scope of Good Agricultural Practice (e.g. < 25°C, < 5 m/s). In

a large number of the trials the atmospheric drift was also measured by means of spherical collectors. The efficiency of catch of these collectors is still open to some questions; therefore only the results of the deposited drift material measurements are presented and discussed in this paper.

A distribution-free parameter "95 % percentile" which is oriented according to the statistical probabilities, was chosen for the determination of so-called "realistic worst cases". In addition to that the many individual test data enclosed in the annex have been used to calculate further statistical parameters which may be important for an interpretation of these test data in connection with other problems.

According to experience the drift in form of the deposited drift material is many times stronger in tall growing crops (grapevine, fruit crops, hops) than in field crops. This is caused by the fact that air-blast sprayers disperse the plant protection products in the horizontal or upward direction with the aid of air. In hops the drift is expected to be almost the same during the vegetation. The higher and denser hop stand prevents the transport and consequently the drift from increasing in the course of the vegetation as a result of increasing the efficiency of the blowers in the air-blast sprayers with progressing vegetation.

In fruit crops the highest values are measured at the beginning of the vegetation and they decrease to less than half of the initial values as the amount of foliage increases (except 40 and 50 m). This is due to the fact that in fruit crops - in contrast to grapevine and hops - the entire treetop (crown) must be treated already with the first spray applications. Therefore it is necessary to distinguish between the drift during early and late vegetation, like in grapevine, too.

In contrast to fruit crops, lower drift values are measured during the first treatments in grapevine. This results from the fact that the spray applications are made without blower, which guarantee good control when being made according to Good

Agricultural Practice. The values for vegetables, ornamentals and small fruit crops expected to result from using pedestrian sprayers have been deduced from the aforementioned measurements.

On the basis of these measured individual values, basic drift values were fixed for the above-mentioned crops and growth stages. In those crops in which the drift remains almost constant during the vegetation (field crops, hops), these values are combined to one basic drift value. In all other cases a distinction is made between the basic drift values for early and late vegetation.

The concentrations of a plant protection product or active ingredient at the respective distance to the area to be treated is determined for a model body of water (30 cm depth) by means of the basic drift values, and a minimum distance to the waters is defined so that negative effects on aquatic organisms are not to be expected.

## **2. Introduction**

During the application of plant protection products for the protection of crops, part of the spray liquid may be carried out of the treated area by wind or the air stream of the air-blast sprayer and may be further spread by drift and result in a contamination of adjacent crops and waters. The drift cloud which can frequently be perceived visually, does not allow any conclusions concerning the actual pollution due to drift. It is the "deposited drift material" being deposited on the soil surface or possibly distributed in the water body by droplets settling out of the drift cloud, which is decisive for the neighbouring areas.

The ecotoxicological risk assessment for a body of water comprises the comparison of the resulting concentration of active ingredient in the body of water with the toxicity to representative aquatic organisms in order to ascertain whether any effects may result. Drift is usually the most important route of transportation out of the crop, particularly in case of groups of active ingredients which are highly toxic to aquatic organisms (e.g. insecticides in fruit orchards). The realistic evaluation of the drift which depends on the application technique, the crop, the height and density of the crop stand as well as the distance from the treated area is the key for a correct risk assessment. The differences between field crops (e.g. cereals) and tall growing crops with and without foliage (e.g. grapevine, fruit crops, hops) are considerable.

The deposited drift material declines quickly as the distance from the treated area increases. By the same token the danger of a water contamination with possible undesirable ecotoxicological effects is also reduced. Thus, the possible contamination from drift and consequently a possible risk for aquatic organisms can be drastically reduced by maintaining a certain distance to a body of water - depending upon the ecotoxicological properties of the respective product. Minimization of a risk by requiring differentiated distances from surface water is part of the German authorization procedure.

Owing to the great importance of this condition for the general practice and with the desire to take the progress made in the technique of crop protection and drift measurement in recent years into consideration, the BBA, the former Federal Health Office (BGA), the Federal Environmental Office (UBA) and the Federation of Agrochemicals Industries (IVA) agreed upon a detailed spray drift measurement program for the elaboration of as broad a data base as possible. This measurement program was projected to comprise trials in field crops, grapevine, fruit crops and hops at different growth stages using equipment being commonly used in crop protection and observing Good Agricultural Practice.

Therefore the IVA with some of its member companies and agencies of the official Crop Protection Service being particularly equipped for the measurement of spray drift carried out a total of 119 drift trials in the field during the years from 1988 until 1992. The following institutions were involved:

BASF AG

BAYER AG

Bayrische Landesanstalt für Bodenkultur und Pflanzenbau, Hüll  
Ciba Agro

Forschungsanstalt Geisenheim

Fraunhofer Institut für Umweltchemie und Ökotoxikologie ,  
Schmallenberg

HOECHST AG, now AgrEvo

Landesanstalt für Pflanzenschutz, Stuttgart

Landes-Lehr- und Forschungsanstalt, Neustadt/W.

The comprehensive results of spray drift measurements described in the following should particularly improve the data base for the assessment of the risk for adjacent crops and waters. The authorization and the "consenting" authorities of consent redefined their standard drift values for the risk assessment on the basis of these new and comprehensive data.

### **3. Objective of the studies**

The Plant Protection Act as amended on September 19, 1986 provides in § 15, paragraph 1, No. 3 that the following conditions are met for the authorization of a plant protection product:

During application or as a consequence of such application the plant protection product shall not have

- a) any detrimental effects on the health of humans and animals and on ground water and
- b) it shall not have any other effects particularly on the normal processes in the environment, which would not be tolerable based on latest scientific knowledge.

It is an undisputed fact and frequently not completely avoidable that part of the applied amount of plant protection products is carried beyond the target area as a consequence of direct spray drift during application. In this connection drifted droplets must be expected to be carried particularly into the immediate vicinity of the respective treated crop by sedimentation; unless a marginal strip is intentionally left untreated for these reasons. However, particles of the aerosol-size fraction or parts of active ingredients in the gas phase in particular are also transported advectively over large distances with the currents of air.

Hazards must be expected to result from spray drift during application particularly in tall growing crops, since the sprayers or air-blast sprayers used in these crops transport the spray fluid in the lateral or upward direction to the plant parts to be treated.

A great number of studies are known from literature which cover the influence of various meteorological parameters (e.g. wind speed, temperature), parameters of plant cultivation (e.g. plant species, growth stage, form of trimming) and individual technical parameters of the equipment (e.g. driving speed, spectrum of the droplet-size distribution, spray pressure,

support by an air stream as a vehicle, etc.) on the spray drift [1, 2, 3]. The results of these studies prove that the extent of drift depends on a great number of individual factors which add up to a complex of influences. As a rule, however, the objective of the studies reported in literature is the investigation of only one single or a few individual parameters. This makes the comparison of the results of different studies very difficult. Due to the lack of validated data it was therefore possible in the past to only roughly estimate the proportion of sedimenting drift without distinguishing, for instance, between different tall growing crops or their growth stages.

Valid spray drift measurements are, however, an indispensable prerequisite for the authorization and "consenting" authorities concerning their assessment of potential hazardous effects of a plant protection product as a result of its application in various fields of use. Therefore systematic, practice-relevant studies needed to be carried out on different crops and growth stages in order to create this prerequisite. The objective of the studies was to determine the levels of immission on adjacent areas as a function of the distance to the treated crop. On the basis of such data the exposure of adjacent areas down the wind can be calculated via the applied amount of plant protection product in the crop (100 %) as a function of the distance from the treated area.

To guarantee the comparability of the trial results being provided by the experts of Agrochemicals Industry and the official Crop Protection Service, it was agreed that these field measurements be carried out in accordance with the BBA-Guideline "Measurement of the direct spray drift during application of liquid plant protection products in the field". This also comprises uniform criteria for the statistical computation of the data having been determined. The latter is particularly necessary for the definition of so-called "realistic worst cases" which are oriented according to statistical probabilities (percentiles).

#### **4. Methods**

The trials were carried out based on the instructions for the measurement of the direct spray drift during application of plant protection products, which had been elaborated by the working group "Spray Drift" of the Working Committee Crop Protection Techniques of the German Phytomedical Society. Later, the Guideline 2-1.1 for the measurement of the direct spray drift during the application of liquid plant protection products in the field developed from these instructions [4]. In this Guideline the spray drift is defined as follows:

The direct spray drift is considered to be that part of the applied amount of active ingredient which is carried beyond the treated area during the application as a consequence of movement of air. A transport of active ingredient out of the treated area by evaporation or leaching is not to be assigned to direct spray drift. The direct spray drift is detected as

- suspended particles being carried by air as vehicle (with drift collectors) and as
- deposited drift material (with sampling devices).

The Guideline provides that the test plot should be part of a larger unit, making sure that driving at right angles to the wind direction must be possible for the measurements. The size of the test plot cannot be given in general since it depends on the kind of the crop, the growth stage and other parameters; it must be large enough, however, so that spraying at the maximum distance from the measuring area does no longer contribute to the direct spray drift.

The trials are carried out by treating the entire test plot with a test liquid which either contains a copper formulation or a fluorescent dyestuff for detection purposes. Each trial is to be carried out with at least three replicates. In this connection the following weather data are to be recorded continuously:

- wind direction,
- wind speed,

- air temperature,
- relative humidity,
- degree of cloudiness.

Depending upon the crop, the weather data are measured at different levels. During the trial the air temperature should not exceed 25°C and the wind speed should not exceed 5 m/s. The mean wind direction must not deviate from the main wind direction by more than 30°. In some cases deviations from these specifications under certain circumstances are possible. Deposited drift material is sampled with sampling devices with a total area of at least 100 cm<sup>2</sup>, which are placed on the ground in horizontal position. The sampling devices should be arranged in at least five different distances from the treated area. The distances may be 1, 2, 3, 4, 5, 7.5, 10, 15, 20, 30, 40, 75 or 100 m. It depends on the objective of the trial and also on the crop, which of these distances are chosen. At least five sampling devices as replicates are placed on the ground at distances of 2 to 3 m each.

In some trials spherical spray drift collectors were attached to a pole for the detection of suspended particles resulting from direct spray drift. A further discussion of these measured values is waived, however, since they have not been further used so far.

Figure 1 shows the arrangement of the spray drift collectors, the sampling devices and the weather station for the various crops. Figure 2 shows a trial arrangement for the measurement of the spray drift in hops.

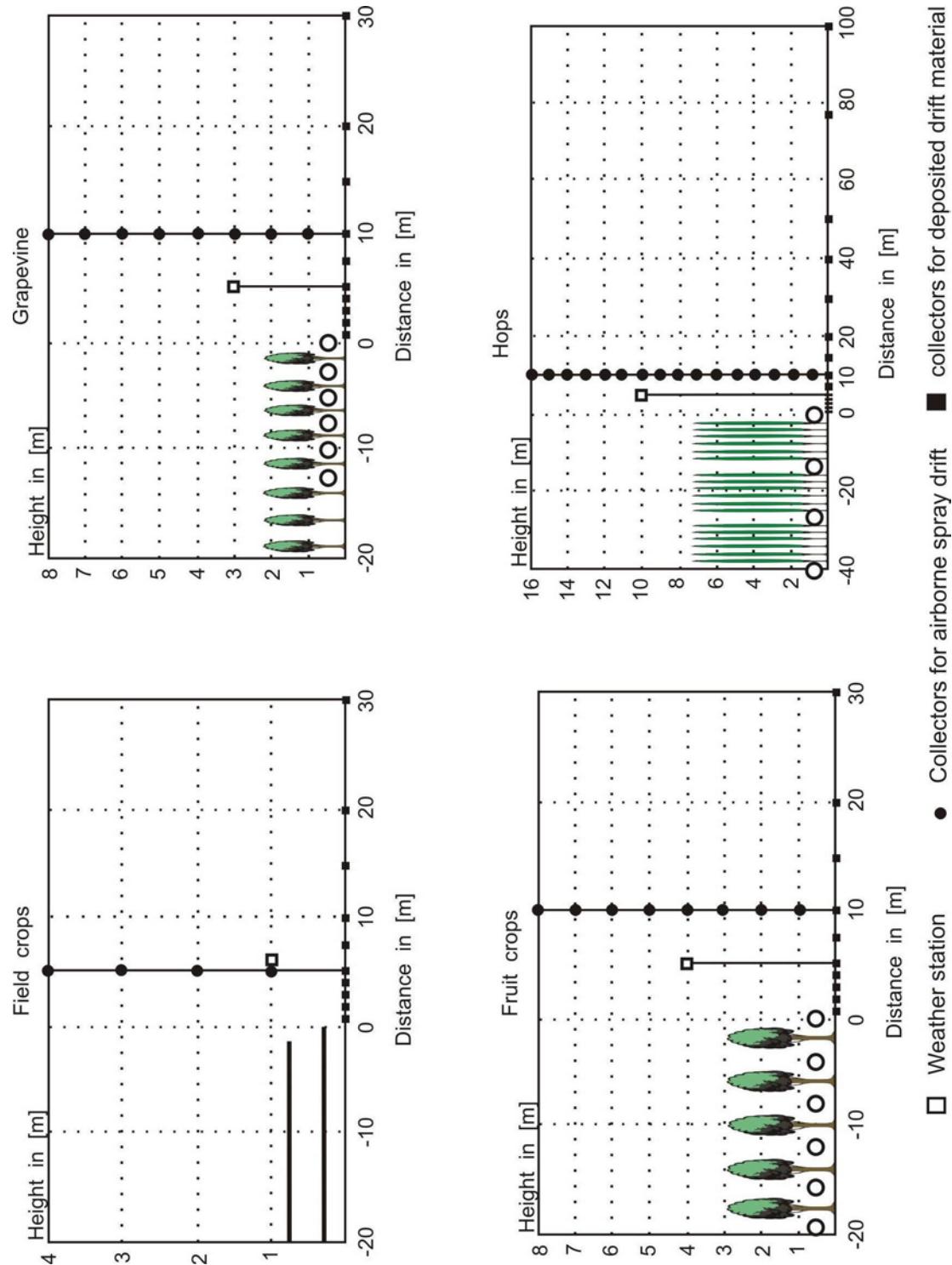


Fig. 1: Trial arrangements in various crops

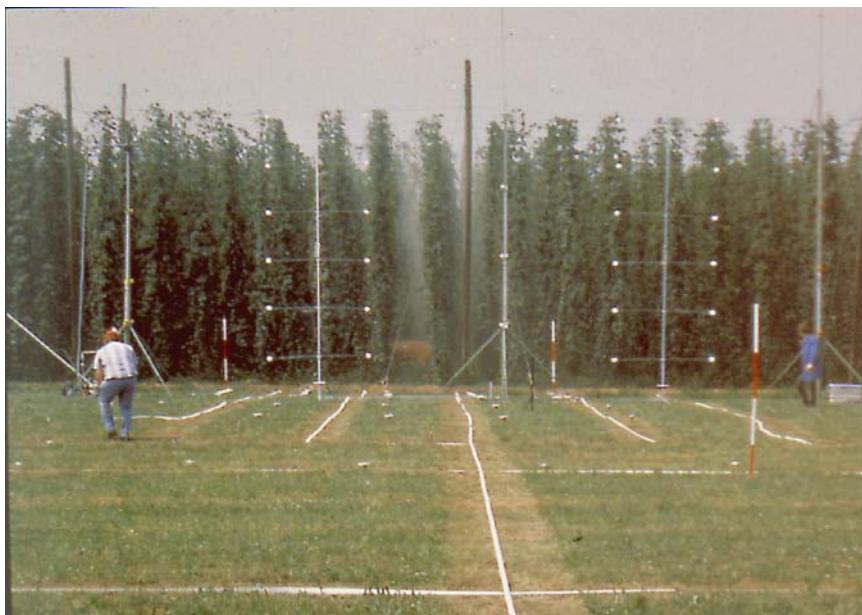


Figure 2: Trial arrangement for the measurement of spray drift in hops

### **5. Trial program**

During the years from 1989 until 1992 spray drift measurements were carried out in the most important crops and growth stages by the official Crop Protection Service as well as also by member companies of the IVA. Drift measurements having been carried out during earlier years already could not be included into this program since they had been carried out under varying prerequisites and did not meet the general conditions provided for in this program [1, 2, 3, 5, 6]. Applications in all the drift trials evaluated in this program were made with conventional spray equipment at a pressure and driving speed reflecting common practice. The measurements were made in accordance with the BBA-Guideline for measurement of spray drift in the field. Either copper (OB21) or brillantsulfoflavin (BSF) was used as tracer material.

A total of 16 drift trials were carried out in field crops, 8 of which were carried out on soil without vegetation and 8 were carried out in cereals during late growth stages. In all trials the applied amount of fluid was adjusted to be 300 l/ha at a driving speed of 6 km/h and pressures ranging from 2.4 to 2.5 bar. The wind speeds were between 0.8 m/s and 3.6 m/s, the temperatures were between 10°C and 17°C with relative humidities of 57 to 83 %. The field sprayers were a

conventional sprayer and an air-blast sprayer, with the air-blast being switched off, however, for the trials so that a conventional application was made also in this case.

A total of 21 drift trials were carried out in grapevine with 10 trials being carried out in the early development stages and 11 trials in the late growth stages. The applied amount of fluid ranged from 400 to 600 l/ha at driving speeds between 6 and 6.1 km/h and pressures between 8 and 9 bar. The wind speeds were between 1.1 and 3.4 m/s at temperatures between 14°C and 25°C. The relative humidity ranged from 43 % to 83 %. Equipment with axial blower was used in the trials exclusively, but the blower was switched off in the early growth stages. It is in compliance with Good Agricultural Practice to switch off the blower in the early growth stages since there is no wall of foliage at this time which must be penetrated with the aid of the air vehicle so that the normal spraying process already guarantees a satisfactory deposition of the spray.

Results of 61 trials carried out in fruit crops are available, with 31 trials having been carried out at early growth stages and 30 trials at late growth stages. The applied amount of fluid ranged from 250 to 1000 l/ha at driving speeds between 5.5 and 6.6 km/h and pressures between 3 and 17 bar. The wind speeds were between 0.1 and 6.4 m/s, the temperatures ranged from 2 to 22°C at relative humidities between 36 % and 90 %. Air-blast sprayers with axial blowers were used in most of the trials, whereas in some trials cross-flow blowers and radial-flow compressors were used.

A total of 21 trials were carried out in hops which had grown to between half the size and the full size of the hop poles. The applied amount of fluid ranged from 1100 to 4700 l/ha at driving speeds between 0.8 and 2.7 km/h and pressures between 16 and 29 bar. The wind speeds were between 0 and 5 m/s, the temperatures between 16 and 28°C with humidities between 34 and 82 %.

Details concerning the test parameters may be taken from the following eight tables. The codes used in the tables have the following meanings:

**Experimenter:**

SL Landesanstalt für Pflanzenschutz, Stuttgart  
Fhg Fraunhofer Institut für Umweltchemie und Ökotoxikologie,  
Schmallenberg

**Crop, kind:**

A Field crops  
W Grapevine  
O Fruit crops  
H Hops

**Tracer:**

OB21 Plant protection product „Cupravit“,  
German authorization number 21356  
BSF Brillantsulfoflavin

Growth stages are in accordance with the BBCH-code (Compendium of growth stage identification for mono- and dicotyledonous plants, published by Ciba-Geigy Ltd., Basle, 1994)

Table 1: Parameters of the drift trials in field crops, early growth stage

Trial				Equipment				Weather									
Experimenter	Trial ident.	Trial No.	Date	Kind	Growth stage	Type	Nozzles	Pressure [bar]	Driving speed [km/h]	Application rate [l/ha]	Tracer	Dosage	Wind speed [m/s]	Wind direction [°]	Temperature [°C]	Relative humidity [%]	
BAYER	1A	179	10.10.1990	A	0	Hardi	Twin	4110 - 20	2,4	6	300	OB 21	1 kg/ha	2	-11	14	74
BAYER	1B	180	10.10.1990	A	0	Hardi	Twin	4110 - 20	2,4	6	300	OB 21	1 kg/ha	2	5	15	74
BAYER	1C	181	10.10.1990	A	0	Hardi	Twin	4110 - 20	2,4	6	300	OB 21	1 kg/ha	2,6	17	15	74
HOECHST	Ke12-16	210	10.09.1990	A	0	Hardi	361	11004	2,5	6	300	BSF	0,10%	1,9	9	14	83
HOECHST	Ke12-17	211	10.09.1990	A	0	Hardi	361	11004	2,5	6	300	BSF	0,10%	2	4	15	81
HOECHST	Ke12-18	212	10.09.1990	A	0	Hardi	361	11004	2,5	6	300	BSF	0,10%	1,7	6	15	81
HOECHST	Ke12-19	213	12.09.1990	A	0	Hardi	361	11004	2,5	6	300	BSF	0,10%	1,4	29	16	79
HOECHST	Ke12-20	214	12.09.1990	A	0	Hardi	361	11004	2,5	6	300	BSF	0,10%	1,1	19	16	80

Table 2: Parameters of the drift trials in field crops, late growth stage

Trial				Equipment				Weather									
Experimenter	Trial ident.	Trial No.	Date	Kind	Growth stage	Type	Nozzles	Pressure [bar]	Driving speed [km/h]	Application rate [l/ha]	Tracer	Dosage	Wind speed [m/s]	Wind direction [°]	Temperature [°C]	Relative humidity [%]	
BAYER	1A	185	13.06.1991	A	51	Hardi	Twin	4110 - 20	2,4	6	300	OB 21	1 kg/ha	3,2	4	15	78
BAYER	2A	186	13.06.1991	A	51	Hardi	Twin	4110 - 20	2,4	6	300	OB 21	1 kg/ha	2,6	7	16	79
BAYER	3B	187	13.06.1991	A	51	Hardi	Twin	4110 - 20	2,4	6	300	OB 21	1 kg/ha	3,6	5	15	79
HOECHST	Ke11-1	220	25.04.1990	A	4/2/45	Hardi	361	11004	2,5	6	300	BSF	0,10%	0,8	40	16	66
HOECHST	Ke11-2	221	25.04.1990	A	4/2/45	Hardi	361	11004	2,5	6	300	BSF	0,10%	1,5	42	11	78
HOECHST	Ke11-3	222	25.04.1990	A	4/2/45	Hardi	361	11004	2,5	6	300	BSF	0,10%	1,2	21	15	67
HOECHST	Ke11-7	223	26.04.1990	A	4/2/45	Hardi	361	11004	2,5	6	300	BSF	0,10%	1,7	10	17	57
HOECHST	Ke11-8	224	26.04.1990	A	4/2/45	Hardi	361	11004	2,5	6	300	BSF	0,10%	2,1	4	10	82

Table 3: Parameters of the drift trials in grapevine, early growth stage

Trial			Crop			Equipment			Weather							
Experimenter	Trial ident.	Trial No.	Date	Kind	Growth stage	Manufacturer	Type	Nozzles	Pressure [bar]	Driving speed [km/h]	Application rate [l/ha]	Tracer	Dosage	Wind speed [m/s]	Wind direction [°]	Temperature [°C]
HOECHST	1	240	14.05.1990	W	15	Holder	AS 310/TU 50	ATP gelb	9	6,1	400	OB 21	0,30%	2,4	15	19
HOECHST	2	241	14.05.1990	W	15	Holder	AS 310/TU 50	ATP gelb	9	6,1	400	OB 21	0,30%	2,3	19	19
HOECHST	3	242	14.05.1990	W	15	Holder	AS 310/TU 50	ATP gelb	9	6,1	400	OB 21	0,30%	2,8	9	19
HOECHST	4	243	14.05.1990	W	15	Holder	AS 310/TU 50	ATP gelb	9	6,1	400	OB 21	0,30%	3	9	18
HOECHST	5	244	14.05.1990	W	15	Holder	AS 310/TU 50	ATP gelb	9	6,1	400	OB 21	0,30%	2,9	7	17
HOECHST	6	245	15.05.1990	W	15	Holder	AS 310/TU 50	ATP gelb	9	6,1	400	BSF	0,10%	1,2	38	20
HOECHST	7	246	15.05.1990	W	15	Holder	AS 310/TU 50	ATP gelb	9	6,1	400	BSF	0,10%	1,1	21	23
HOECHST	8	247	15.05.1990	W	15	Holder	AS 310/TU 50	ATP gelb	9	6,1	400	BSF	0,10%	1,6	40	22
HOECHST	9	248	15.05.1990	W	15	Holder	AS 310/TU 50	ATP gelb	9	6,1	400	BSF	0,10%	1,3	17	21
HOECHST	16	249	15.05.1990	W	15	Holder	AS 310/TU 50	ATP gelb	9	6,1	400	BSF	0,10%	2,9	13	22

Table 4: Parameters of the drift trials in grapevine, late growth stage

Trial			Crop			Equipment			Weather							
Experimenter	Trial ident.	Trial No.	Date	Kind	Growth stage	Manufacturer	Type	Nozzles	Pressure [bar]	Driving speed [km/h]	Application rate [l/ha]	Tracer	Dosage	Wind speed [m/s]	Wind direction [°]	Temperature [°C]
HOECHST	1	96	12.07.1990	W	31	Holder	AS 310/TU 50	ATP gelb	8,5	6,1	600	OB 21	0,30%	2,5	19,5	24
HOECHST	2	97	12.07.1990	W	31	Holder	AS 310/TU 50	ATP gelb	8,5	6,1	600	OB 21	0,30%	2,5	15,4	24,5
HOECHST	3	98	12.07.1990	W	31	Holder	AS 310/TU 50	ATP gelb	8,5	6,1	600	OB 21	0,30%	2,7	9,2	24,5
HOECHST	4	99	12.07.1990	W	31	Holder	AS 310/TU 50	ATP gelb	8,5	6,1	600	OB 21	0,30%	2,6	15,9	25
HOECHST	5	100	12.07.1990	W	31	Holder	AS 310/TU 50	ATP gelb	8,5	6,1	600	OB 21	0,30%	2,2	28,2	25
BAYER	I	49	03.08.1989	W	33	Kroboth	Axial	Albuz gelb	8	6	600	OB 21	0,50%	3,2	0	14
BAYER	II	50	03.08.1989	W	33	Kroboth	Axial	Albuz gelb	8	6	600	OB 21	0,50%	3,4	0	15
BAYER	III	51	03.08.1989	W	33	Kroboth	Axial	Albuz gelb	8	6	600	OB 21	0,50%	2,7	0	15
BAYER	IV	52	03.08.1989	W	33	Kroboth	Axial	Albuz gelb	8	6	600	OB 21	0,50%	2,8	0	16
BAYER	V	53	03.08.1989	W	33	Kroboth	Axial	Albuz gelb	8	6	600	OB 21	0,50%	2,9	0	19
BAYER	VI	54	03.08.1989	W	33	Kroboth	Axial	Albuz gelb	8	6	600	OB 21	0,50%	3	0	19

Trial		Crop		Equipment			Weather									
Experimenter	Trial ident.	Trial No.	Date	Kind	Growth stage	Manufacturer	Type	Nozzles	Pressure [bar]	Driving speed [km/h]	Application rate [l/ha]	Tracer	Dosage	Wind speed [m/s]	Wind direction [°]	Temperature [°C]
BASF	DU 1	225	13.03.1991	O	98/99	Platz	AX 630	Albuz gelb	7	6,61	300	OB 21	0,10%	1,5	15	16
BASF	DU 2	226	13.03.1991	O	98/99	Platz	AX 630	Albuz gelb	7	6,61	300	OB 21	0,10%	1,3	11	16
BASF	DU 3	227	13.03.1991	O	98/99	Platz	AX 630	Albuz gelb	7	6,61	300	OB 21	0,10%	1,3	-9	17
BASF	DU 4	228	13.03.1991	O	98/99	Platz	AX 630	Albuz gelb	7	6,61	300	OB 21	0,10%	1,1	-21	17
BASF	DU 5	229	13.03.1991	O	98/99	Platz	AX 630	Albuz gelb	7	6,61	300	OB 21	0,10%	0,7	-30	17
BASF	DU 1	230	13.03.1991	O	98/99	Platz	AX 630	Albuz gelb	7	6,61	300	OB 21	0,10%	4	-32	9
BASF	DU 2	231	03.03.1992	O	98/99	Platz	AX 630	Albuz gelb	7	6,61	300	OB 21	0,10%	5,3	-33	10
BASF	DU 3	232	03.03.1992	O	98/99	Platz	AX 630	Albuz gelb	7	6,61	300	OB 21	0,10%	6,4	-33	11
BASF	DU 4	233	03.03.1992	O	98/99	Platz	AX 630	Albuz gelb	7	6,61	300	OB 21	0,10%	5,6	-32	10
BASF	DU 5	234	03.03.1992	O	98/99	Platz	AX 630	Albuz gelb	7	6,61	300	OB 21	0,10%	5,5	-25	10
BASF	DU 1	235	11.03.1992	O	98/99	Platz	AX 630	Albuz gelb	7	6,26	300	OB 21	0,10%	4,5	-7	7
BASF	DU 2	236	11.03.1992	O	98/99	Platz	AX 630	Albuz gelb	7	6,26	300	OB 21	0,10%	3,8	-22	9
BASF	DU 3	237	11.03.1992	O	98/99	Platz	AX 630	Albuz gelb	7	6,26	300	OB 21	0,10%	3,5	2	8
BASF	DU 4	238	11.03.1992	O	98/99	Platz	AX 630	Albuz gelb	7	6,26	300	OB 21	0,10%	3,2	0	8
BASF	DU 5	239	11.03.1992	O	98/99	Platz	AX 630	Albuz gelb	7	6,26	300	OB 21	0,10%	2,9	-2	8
BAYER	1	191	21.03.1990	O	21/22	Holder	TU 60	Albuz gelb	9	5,7	300	OB 21	1kg/ha	3,4	10	14
BAYER	2	192	21.03.1990	O	21/22	Holder	TU 60	Albuz gelb	9	5,7	300	OB 21	1kg/ha	3	12	15
BAYER	3	193	21.03.1990	O	21/22	Holder	TU 60	Albuz gelb	9	5,7	300	OB 21	1kg/ha	3,6	6	15
BAYER	4	194	21.03.1990	O	21/22	Holder	TU 60	Albuz gelb	9	5,7	300	OB 21	1kg/ha	3,3	6	15
BAYER	5	195	21.03.1990	O	21/22	Holder	TU 60	Albuz gelb	9	5,7	300	OB 21	1kg/ha	3,2	15	15
BAYER	1	196	31.03.1991	O	21/22	Holder	TU 60	Albuz gelb	8	6	300	OB 21	1kg/ha	3,2	2	3
BAYER	2	197	31.03.1991	O	21/22	Holder	TU 60	Albuz gelb	8	6	300	OB 21	1kg/ha	3	-1	4
BAYER	3	198	31.03.1991	O	21/22	Holder	TU 60	Albuz gelb	8	6	300	OB 21	1kg/ha	3,1	-28	3
BAYER	4	199	31.03.1991	O	21/22	Holder	TU 60	Albuz gelb	8	6	300	OB 21	1kg/ha	3	-30	4
BAYER	5	200	31.03.1991	O	21/22	Holder	TU 60	Albuz gelb	8	6	300	OB 21	1kg/ha	2,3	-15	5
BAYER	6	201	31.03.1991	O	21/22	Holder	TU 60	Albuz gelb	8	6	300	OB 21	1kg/ha	2,6	-17	6
BAYER	A	202	18.01.1992	O	98/99	Holder	TU 60	Albuz gelb	3	6	300	OB 21	0,30%	2,5	-14	2
BAYER	B	203	18.01.1992	O	98/99	Holder	TU 60	Albuz gelb	3	6	300	OB 21	0,30%	2,5	-18	3
BAYER	C	204	18.01.1992	O	98/99	Holder	TU 60	Albuz gelb	3	6	300	OB 21	0,30%	2,1	-7	3
BAYER	D	205	18.01.1992	O	98/99	Holder	TU 60	Albuz gelb	3	6	300	OB 21	0,30%	2,6	-2	3
BAYER	E	206	18.01.1992	O	98/99	Holder	TU 60	Albuz gelb	3	6	300	OB 21	0,30%	2,2	-5	3

Trial			Crop			Equipment			Weather							
Experimenter	Trial ident.	Trial No.	Date	Kind	Growth stage	Manufacturer	Type	Nozzles	Pressure [bar]	Driving speed [km/h]	Application rate [l/ha]	Tracer	Dosage	Wind speed [m/s]	Wind direction [°]	Temperature [°C]
BASF	Du 2	101	22.10.1990	O	91	Platz	AX 630	ATR gelb	7	6,34	300	OB 21	0,50%	4	<12	11,3
BASF	DU 3	102	22.10.1990	O	91	Platz	AX 630	ATR gelb	7	6,34	300	OB 21	0,50%	4,3	<15	11,8
BASF	DU 4	103	22.10.1990	O	91	Platz	AX 630	ATR gelb	7	6,34	300	OB 21	0,50%	3,8	<20	11,7
BASF	DU 5	104	22.10.1990	O	91	Platz	AX 630	ATR gelb	7	6,34	300	OB 21	0,50%	3,4	<20	11,4
BAYER	I	43	14.09.1989	O	85	Holder	TU 61	Albusz gelb	10	6	300	OB 21	0,50%	2,9	-4	19,8
BAYER	II	44	14.09.1989	O	85	Holder	TU 61	Albusz gelb	10	6	300	OB 21	0,50%	2,9	-12	20
BAYER	III	45	14.09.1989	O	85	Holder	TU 61	Albusz gelb	10	6	300	OB 21	0,50%	3,3	7	21,4
BAYER	IV	46	14.09.1989	O	85	Holder	TU 61	Albusz gelb	10	6	300	OB 21	0,50%	3	12	22
BAYER	V	47	14.09.1989	O	85	Holder	TU 61	Albusz gelb	10	6	300	OB 21	0,50%	3,1	1	20,3
BAYER	VI	48	08.08.1989	O	85	Holder	TU 73	Albusz gelb	10	6	300	OB 21	0,50%	2,3	17	21,6
SL	V3	16	13.10.1989	O	91	Soraru	Axial	APT gelb	8	6	250	BSF	0,10%	0,75	28	11,2
SL	V4	17	13.10.1989	O	91	Soraru	Axial	APT gelb	8	6	250	BSF	0,10%	0,75	30	11,3
SL	V5	18	13.10.1989	O	91	Soraru	Axial	P 1,5 CX	8	6	500	BSF	0,10%	0,75	0	12,2
SL	V6	19	13.10.1989	O	91	Soraru	Axial	P 1,5 CX	8	6	500	BSF	0,10%	0,75	25	10,9
SL	V7	20	13.10.1989	O	91	Soraru	Axial	P 2,0 CX	17	6	1000	BSF	0,10%	0,75	25	14,8
SL	V9	22	13.10.1989	O	91	Holder	Querstr.	APT gelb	8	6	250	BSF	0,10%	0,75	0	15
SL	V10	23	13.10.1989	O	91	Holder	Querstr.	P 1,5 CX	8	6	500	BSF	0,10%	0,75	30	15,5
FhG	1	163	26.09.1990	O	91	Myers	Axial	ATR gelb	10	5,7	275	BSF	0,10%	0,12	9	13
FhG	2	164	26.09.1990	O	91	Myers	Axial	ATR gelb	15	5,6	338	BSF	0,10%	0,41	11	14
FhG	3	165	26.09.1990	O	91	Myers	Axial	ATR gelb	15	5,5	338	BSF	0,10%	0,87	37	15
FhG	4	166	26.09.1990	O	91	Myers	Axial	ATR gelb	10	5,9	275	BSF	0,10%	0,54	18	15
FhG	5	167	27.09.1990	O	91	Myers	Axial	ATR gelb	10	5,5	275	BSF	0,10%	0,64	48	11
FhG	6	168	27.09.1990	O	91	Myers	Axial	ATR gelb	15	6,2	338	BSF	0,10%	1,48	25	14
FhG	7	169	27.09.1990	O	91	Hardi	Radial	ATR gelb	15	6,3	338	BSF	0,10%	2,7	18	13
SL	090-1	1	26.09.1990	O	91	Myers	Axial	ATR gelb	10	6	275	BSF	0,10%	0,6	30	12,6
SL	090-2	2	26.09.1990	O	91	Myers	Axial	ATR gelb	15	6	338	BSF	0,10%	0,9	20	13,9
SL	090-3	3	26.09.1990	O	91	Myers	Axial	ATR gelb	15	6	338	BSF	0,10%	1,5	23	13,9
SL	090-4	4	26.09.1990	O	91	Myers	Axial	ATR gelb	10	6	275	BSF	0,10%	0,9	17	14,5
SL	090-5	5	26.09.1990	O	91	Hardi	Radial	ATR gelb	15	6	338	BSF	0,10%	3,4	30	12,5
SL	090-6	6	26.09.1990	O	91	Hardi	Radial	ATR gelb	10	6	275	BSF	0,10%	2,6	24	13,5

Table 7: Parameters of the drift trials in hops, early growth stage

Trial			Crop		Equipment			Weather								
Experimenter	Trial ident.	Trial No.	Date	Kind	Growth stage	Manufacturer	Type	Nozzles	Pressure [bar]	Driving speed [km/h]	Application rate [l/ha]	Tracer	Dosage	Wind speed [m/s]	Wind direction [°]	Temperature [°C]
HOECHST	1	115	18.06.1990	H	48-50	Myers	20/105/Z	Hohlkegel	29	2,7	1500	OB 21	0,10%	0	0	19
HOECHST	2	116	19.06.1990	H	48-50	Myers	20/105/Z	Hohlkegel	29	2,7	1500	OB 21	0,10%	1,3	28	21,8
HOECHST	3	117	19.06.1990	H	48-50	Myers	20/105/Z	Hohlkegel	29	2,7	1500	OB 21	0,10%	0	0	22
HOECHST	4	118	19.06.1990	H	48-50	Myers	20/105/Z	Hohlkegel	29	2,7	1500	OB 21	0,10%	0,9	16	22,5
HOECHST	5	119	19.06.1990	H	48-50	Myers	20/105/Z	Hohlkegel	29	2,7	1500	OB 21	0,10%	0,8	17	25,3
SL	H 90-1	24	19.06.1990	H	45-49	Myers	Axial	D + J	16	2,5	1143	BSF	0,10%	1,5	30	25
SL	H 90-2	25	20.06.1990	H	45-49	Myers	Axial	D + J	16	2,5	1143	BSF	0,10%	1	15	19
SL	H 90-3	26	20.06.1990	H	45-49	Myers	Axial	D + J	16	2,5	1143	BSF	0,10%	1,7	25	19
SL	H 90-4	27	20.06.1990	H	45-49	Myers	Axial	D + J	16	2,5	1143	BSF	0,10%	1,7	18	22

Table 8: Parameters of the drift trials in hops, late growth stage

Trial			Crop		Equipment			Weather								
Experimenter	Trial ident.	Trial No.	Date	Kind	Growth stage	Manufacturer	Type	Nozzles	Pressure [bar]	Driving speed [km/h]	Application rate [l/ha]	Tracer	Dosage	Wind speed [m/s]	Wind direction [°]	Temperature [°C]
SL	H 90-10	28	31.07.1990	H	80	Myers	Axial	D + J	19	0,8	4714	BSF	0,10%	1,8	30	22,3
SL	H 90-14	30	01.08.1990	H	80	Myers	Axial	D + J	19	1	3771	BSF	0,10%	5	36	24
SL	H 90-15	31	02.08.1990	H	80	Myers	Axial	D + J	19	1	3771	BSF	0,10%	4	36	22,5
SL	H 90-16	32	02.08.1990	H	80	Myers	Axial	D + J	19	1	3771	BSF	0,10%	1,7	18	24
SL	H 90-17	33	02.08.1990	H	80	Myers	Axial	D + J	19	1	3771	BSF	0,10%	1,5	12	24
HOECHST	1	120	08.08.1990	H	75-79	Myers	20/105/Z	Hohlkegel	25	2	2000	OB 21	0,10%	1,1	12	19,5
HOECHST	2	121	08.08.1990	H	75-79	Myers	20/105/Z	Hohlkegel	25	2	2000	OB 21	0,10%	2,3	29	20,5
HOECHST	3	122	09.08.1990	H	75-79	Myers	20/105/Z	Hohlkegel	25	2	2000	OB 21	0,10%	0	0	16
HOECHST	4	123	09.08.1990	H	75-79	Myers	20/105/Z	Hohlkegel	25	2	2000	OB 21	0,10%	1,4	10,9	22
HOECHST	5	124	09.08.1990	H	75-79	Myers	20/105/Z	Hohlkegel	25	2	2000	OB 21	0,10%	2,2	14,4	22,5
SL	H 91-2	111	06.08.1991	H	80	Myers	Axial	D + J	20	1,2	3684	BSF	0,10%	1	30	28
SL	H 91-4	113	07.08.1991	H	80	Myers	Axial	D + J	20	1,2	3684	BSF	0,10%	1,5	24	28

## 6. Evaluation of the drift results

The results of the drift measurements carried out in field crops, grapevine, fruit crops and hops and the test parameters being used as a basis for the evaluation are summarized in the appendix.

### **6.1 General procedure**

It is necessary to evaluate the results of drift measurements of several spray drift trials together in order to allow an assessment of the equipment concerning the production of spray drift also under consideration of the growth stages of the crops.

At first the drift trials carried out in field crops, grapevine, fruit crops and hops are therefore summarized and computed by groups according to early and late growth stages (8 groups). In those crops where the differences between early and late vegetation are low, the results of the drift trials of one crop may also be evaluated together. Many individual measured values are then available for each distance which form a frequency distribution. The mode of evaluating the data can then be determined depending upon whether these data can be satisfactorily described by a Gaussian distribution or not.

A suitable percentile (80, 90 or 95 %) of the distribution is proposed as characteristic value for the drift behaviour which summarizes the many available drift results per distance.

The values of the deposited drift material being given in % of the application rate are evaluated.

There are three possible alternatives for the determination of the percentiles:

**Alternative 1:** The percentiles are calculated directly from the mean values and standard deviations formed per trial and distance, taking advantage of the fact that the drift results

per distance follow a Gaussian normal distribution. This evaluation procedure cannot be applied for data not following a Gaussian normal distribution.

If the drift results per distance do not follow a Gaussian normal distribution or if the type of distribution has not been checked, Alternative 2 or Alternative 3 must be applied:

**Alternative 2:** The percentiles are calculated based on the mean values formed per trial and distance. The distribution-free calculation of the percentiles offers advantages in comparison to Alternative 1.

**Alternative 3:** In this case the percentiles are calculated based on all individual values being available for each distance. Like in case of Alternative 2, the method of calculating the percentiles does not require a Gaussian distribution either.

## 6.2 Proceeding in case of Alternative 1

If the drift values per distance follow a Gaussian distribution, the first action is to form the arithmetical mean for sampling devices of one drift trial.

For n replicates being carried out of one drift trial, n mean values per distance will result, namely

$\bar{x}_1, \bar{x}_2, \dots, \bar{x}_i, \dots, \bar{x}_n$ .

Then the overall mean value  $\bar{\bar{x}}$  and the standard deviation s is calculated from these mean values:

$$\bar{x} = \frac{1}{n} (\bar{x}_1 + \bar{x}_2 + \dots + \bar{x}_n) = \frac{1}{n} \sum_{i=1}^n \bar{x}_i ,$$

$$s = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (\bar{x}_i - \bar{\bar{x}})^2}$$

From these calculations the **XX % percentiles VBXX** (XX = 95, 90 or 80) result by approximation according to the equations

$$VB80 = \bar{x} + 0.84 * s$$

$$VB90 = \bar{x} + 1.28 * s$$

$$VB95 = \bar{x} + 1.64 * s.$$

The question whether a Gaussian distribution is given can be answered among others by plotting the data in a probability paper.

Plotting, for instance, the 20 m results for hops in the growth stage 45 - 79 in the probability paper results in a strongly curved cumulative frequency curve (Figure 3). This means that the assumption of a Gaussian distribution is not justified for these data.

Since logarithmizing the drift values results, however, in a straight line in good approximation, a logarithmical Gaussian distribution can be taken for granted in this case (Figure 4).

### **6.3 Proceeding in case of Alternative 2**

If the values per distance do not follow a Gaussian normal distribution, the arithmetical mean is first formed for the sampling devices of one trial also in this case. Like in case of Alternative 1, the following n mean values are obtained

$$\bar{x}_1, \bar{x}_2, \dots, \bar{x}_i, \dots, \bar{x}_n.$$

The percentiles being looked for must then be calculated based on these mean values. This is best done in the following way: first the mean values must be arranged in ascending order. Based on a number of n random samples the following ordered sequence of mean values results

$$\bar{x}(1) \leq \bar{x}(2) \leq \dots \leq \bar{x}(k) \leq \bar{x}(k+1) \leq \dots \leq \bar{x}(n)$$

### Probability Plot Hop Data Growth Stages 45 -79

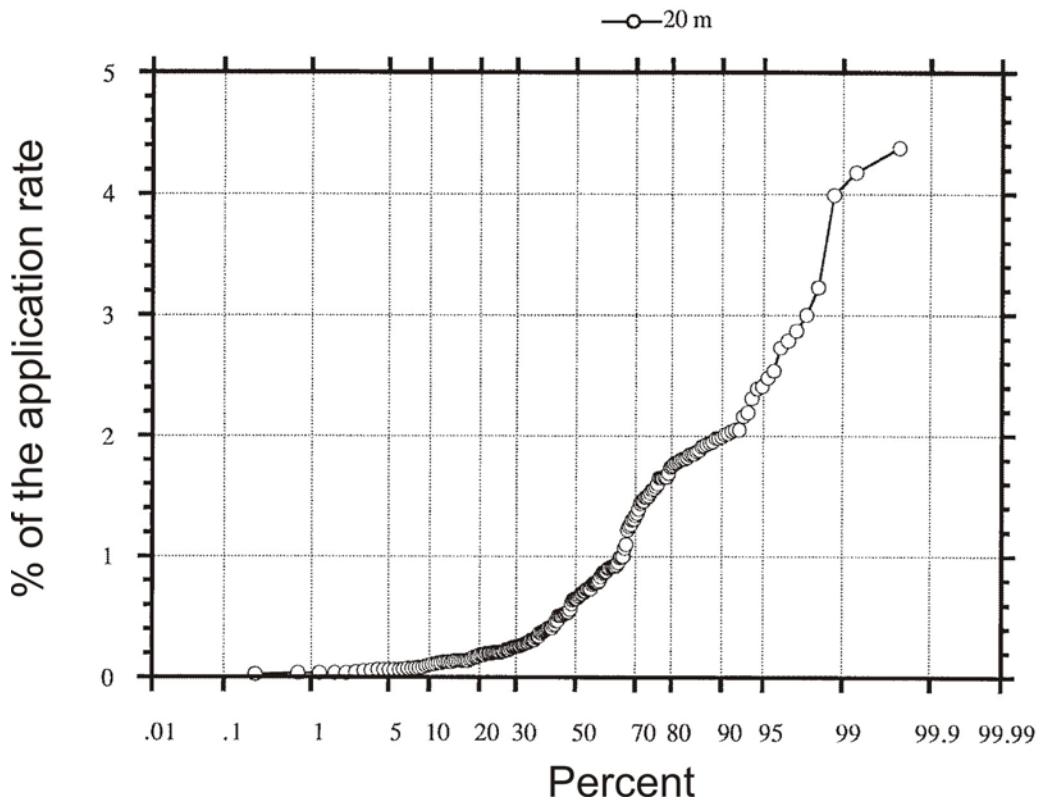


Fig. 3: Cumulative frequency curve for hops at a distance of 20 m from the treated area

### Probability Plot Hop Data Growth Stages 45-79

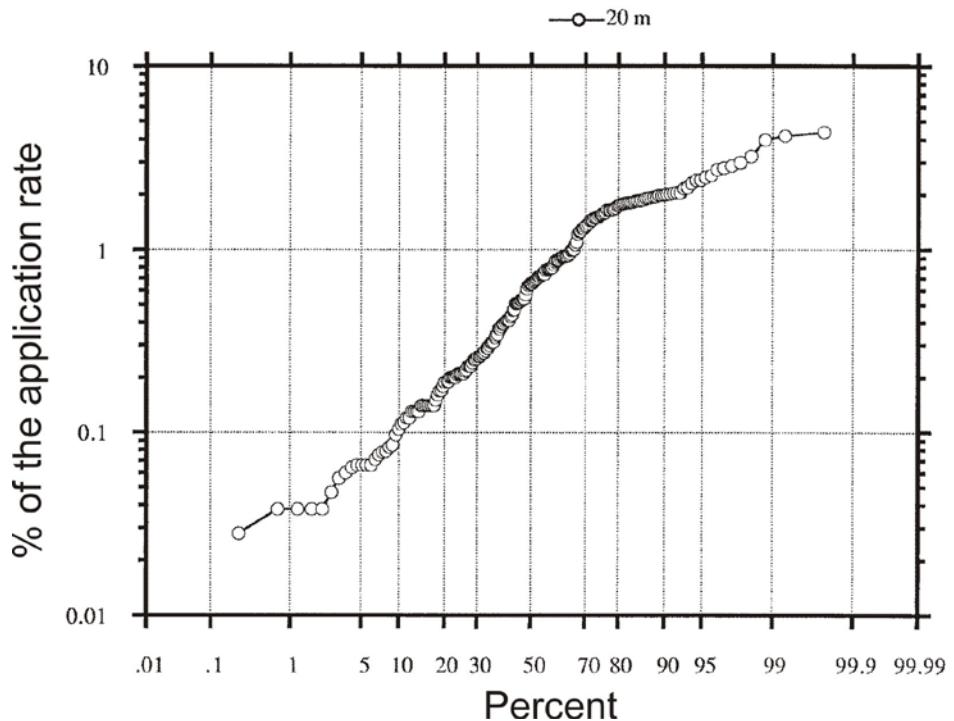


Fig. 4: Cumulative frequency curve of the logarithmized drift values from figure 3

The  **$\alpha$ -th percentile  $x_\alpha$** , which covers exactly  $\alpha$  % of the  $n$  mean values per definitionem, is calculated using the interpolation formula

$$x_\alpha = (1 - f) * \bar{x}(k) + f * \bar{x}(k+1)$$

$k$  = integral part of the auxiliary quantity  $v$

$f$  = fractional part of the auxiliary quantity  $v$

Different authors use different terms for the auxiliary quantity  $v$ . It is recommended to use

$$v = \frac{(n+1)*\alpha}{100}$$

since this proposal is also used in other guidelines of the BBA.

The XX % percentile PXXM ( $XX = 80, 90$  or  $95$ ), which covers exactly XX % of the mean values, then reads

$$PXXM = x_{\alpha=XX \%}$$

Some peculiarities result, however, from using this calculation concept:

- In case of numbers of random samples of **less than 20** a value *greater than or equal* to  $n$  is obtained for the quantity  $v$  for P95 with the consequence of  $k = n$  and  $f = 0$ .

Thus, the 95 %-percentile is identical with the **maximum value** in these cases. Despite the fact that this procedure is not readily affected by outliers, this means that even with these numbers of random samples the data must be correctively adjusted for outliers (e.g. according to Grubbs or Dixon) before calculating the percentile.

Even in case of numbers of random samples from 20 to 38, the maximum value still essentially influences the percentile via the interpolation formula. This means that also in case of these numbers of random samples, considerations concerning the outliers are indicated.

- The **maximum value** for the 90 %-percentile is obtained up to numbers of **9** random samples.
- The maximum value is included in the interpolation even up to a number of 18 random samples.
- For the 80 %-percentile the maximum value is no longer entered into the calculation from a number of n = 9 random samples on.

#### **6.4 Proceeding in case of Alternative 3**

If a Gaussian normal distribution of the values per distance is not given, the percentiles can also be calculated directly based on the individual values of all sampling devices per distance. In analogy to the above the following is obtained for the XX % percentile PXXE (XX = 80, 90 or 95), which covers exactly XX % of the individual values:

$$PXXE = X_{\alpha=XX \%}$$

The peculiarities of the formula for calculation which had been pointed out in connection with Alternative 2 apply, of course, also in this case. In general the seeming advantage of the higher number of random samples in case of the individual values does not influence the result (provided that the mean values are based on almost equally large collectives of individual values in each case), since usually the complete series of individual values is also shifted in case of an outlier in the mean values.

#### **6.5 Interpolation and extrapolation of test results**

Interpolation and (with the necessary care) extrapolation of the results for VB95, P95M and/or P95E are necessary if the data for distances not being provided for in the test program are needed.

For these considerations it offers itself to plot the quantities against the distance (e.g. in a semilogarithmic or double-logarithmic scale) so that they can be adjusted with a straight line.

As an example, the VB95-values for grapevine in the growth stage 31 - 33 (trials 49 - 54, 96 - 100) are plotted against the distance in the double-logarithmic scale (Figure 5).

The individual measured values listed in the appendix have been evaluated by crops and growth stages taking the above comments into consideration. The results may be taken from the following tables.

## Confidence Limits VB95 as function of the distance measured drift values grapevine: growth stage 31-33

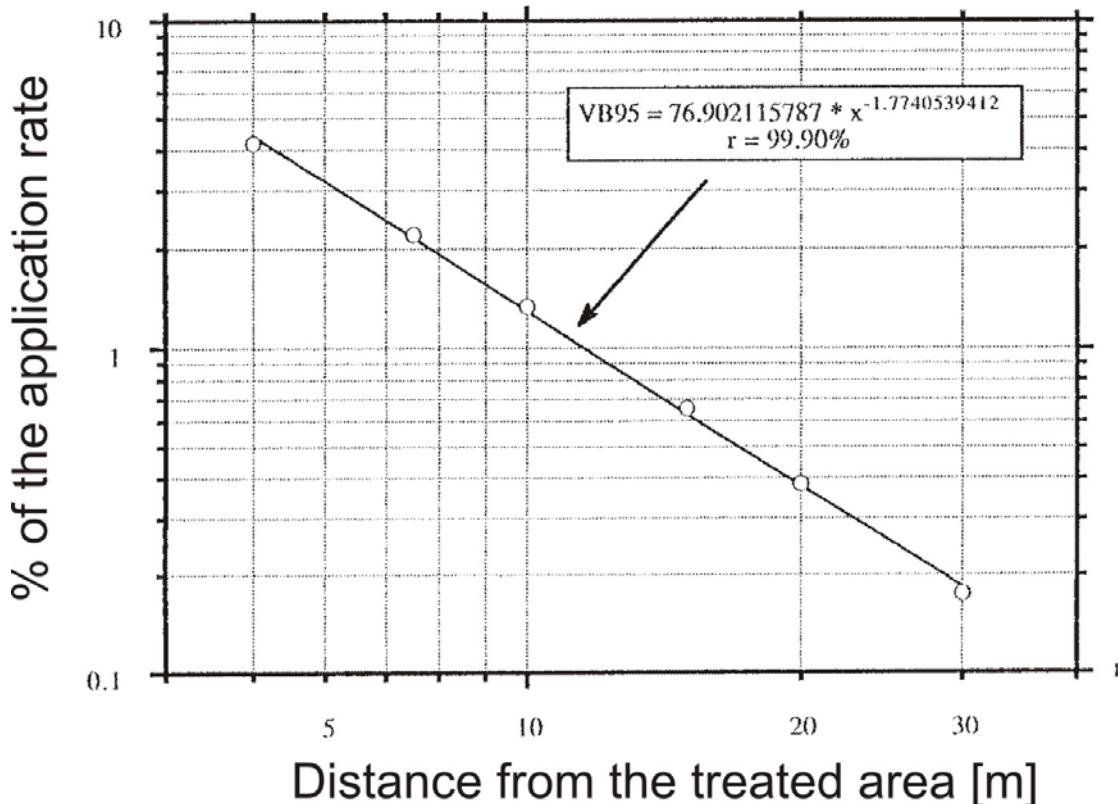


Fig. 5: Double logarithmic presentation of the confidence limits VB95 as a function of the distance from the treated area

Table 9: Statistical evaluation of the results of drift measurements for field crops, early growth stage

Figures in % of the application rate										Last update:	21.11.94			
Characteristic	Trial No.	Trial station	Dishes	Distance										
				1 m	2 m	3 m	4 m	5 m	7.5 m	10 m	15 m	20 m		
<i>Mean values x</i>	—	179	Bayer/1A	5	2,436	1,060	0,670	0,398	0,304	0,222	0,150	0,084	0,060	0,058
		180	Bayer/1B	5	0,534	0,144	0,096	0,120	0,080	0,056	0,032	0,020	0,028	0,000
		181	Bayer/1C	5	3,508	1,170	0,714	0,426	0,316	0,138	0,088	0,032	0,004	0,000
		210	Hoechst/Kel2-16	6	0,858	0,530	0,473	0,340	0,353	0,212	0,198	0,125	0,063	0,025
		211	Hoechst/Kel2-17	6	0,260	0,255	0,183	0,140	0,152	0,102	0,072	0,047	0,028	0,027
		212	Hoechst/Kel2-18	6	0,448	0,383	0,372	0,242	0,235	0,125	0,130	0,067	0,038	0,025
		213	Hoechst/Kel2-19	6	1,695	0,805	0,535	0,297	0,263	0,080	0,055	0,023	0,008	0,010
		214	Hoechst/Kel2-20	6	1,710	0,667	0,442	0,297	0,233	0,148	0,105	0,052	0,038	0,003
<i>Overall mean x</i>	—				1,431	0,627	0,436	0,282	0,242	0,135	0,104	0,056	0,034	0,019
<i>Standard deviation s of mean values x</i>	—				1,130	0,370	0,216	0,111	0,090	0,059	0,054	0,035	0,021	0,020
<i>VB80 = x + 0,84 * s</i>					2,381	0,937	0,617	0,375	0,318	0,185	0,149	0,086	0,052	0,035
<i>VB90 = x + 1,28 * s</i>					2,878	1,100	0,712	0,424	0,357	0,210	0,173	0,101	0,061	0,044
<i>VB95 = x + 1,64 * s</i>					3,285	1,233	0,790	0,464	0,390	0,232	0,193	0,114	0,069	0,051
<i>P80E = 80% Percentile of individual values</i>					2,346	0,868	0,600	0,410	0,320	0,198	0,150	0,088	0,058	0,038
<i>P90E = 90% Percentile of individual values</i>					3,622	1,214	0,814	0,514	0,390	0,234	0,206	0,098	0,080	0,048
<i>P95E = 95% Percentile of individual values</i>					3,979	1,610	0,914	0,561	0,509	0,281	0,254	0,157	0,111	0,060
<i>P80M = 80% Percentile of mean values</i>					2,650	1,082	0,679	0,404	0,323	0,214	0,160	0,092	0,061	0,033
<i>P90M = 90% Percentile of mean values</i>					3,508	1,170	0,714	0,426	0,353	0,222	0,198	0,125	0,063	0,058
<i>P95M = 95% Percentile of mean values</i>					3,508	1,170	0,714	0,426	0,353	0,222	0,198	0,125	0,063	0,058

Table 10: Statistical evaluation of the results of drift measurements for field crops, late growth stage

Figures in % of the application rate				Last update: 21.11.04									
<i>Characteristic</i>	Trial No.	Trial station	Dishes	Distance									
				1 m	2 m	3 m	4 m	5 m	7.5 m	10 m	30 m		
<i>Mean values x</i>	185	Bayer/1A	5	3,438	1,244	0,864	0,768	0,520	0,272	0,252	0,196	0,120	0,114
	186	Bayer/2A	5	1,748	1,180	0,984	0,940	0,748	0,420	0,334	0,110	0,060	0,004
	187	Bayer/3A	5	0,468	0,340	0,326	0,296	0,236	0,146	0,150	0,064	0,034	0,020
	220	Hoechst/Kell1-01	6	1,697	0,318	0,140	0,072	0,040	0,017	0,007	0,000	0,003	0,000
	221	Hoechst/Kell1-02	6	0,678	0,242	0,163	0,128	0,105	0,067	0,088	0,057	0,025	0,012
	222	Hoechst/Kell1-03	6	1,562	0,373	0,188	0,117	0,085	0,077	0,040	0,018	0,013	0,025
	223	Hoechst/Kell1-07	6	0,903	0,325	0,160	0,137	0,120	0,060	0,043	0,032	0,018	0,017
	224	Hoechst/Kell1-08	6	0,325	0,222	0,170	0,142	0,092	0,053	0,053	0,048	0,033	0,018
<i>Overall mean x</i>	—			1,352	0,531	0,374	0,325	0,243	0,139	0,121	0,066	0,038	0,026
<i>Standard deviation s of mean values x</i>	—			1,012	0,424	0,345	0,336	0,255	0,139	0,116	0,062	0,037	0,036
<i>VB80 = <math>\bar{x} + 0,84 * s</math></i>	—			2,202	0,887	0,665	0,607	0,457	0,255	0,219	0,118	0,070	0,057
<i>VB90 = <math>\bar{x} + 1,28 * s</math></i>	—			2,647	1,073	0,817	0,755	0,570	0,316	0,270	0,145	0,086	0,073
<i>VB95 = <math>\bar{x} + 1,64 * s</math></i>	—			3,011	1,226	0,941	0,876	0,661	0,366	0,312	0,168	0,099	0,086
<i>P80E = 80% Percentile of individual values</i>	—			1,934	0,756	0,630	0,496	0,370	0,236	0,226	0,080	0,060	0,030
<i>P90E = 90% Percentile of individual values</i>	—			3,154	1,032	0,838	0,906	0,634	0,378	0,298	0,148	0,076	0,092
<i>P95E = 95% Percentile of individual values</i>	—			4,992	1,789	1,350	1,047	0,714	0,461	0,368	0,204	0,130	0,110
<i>P80M = 80% Percentile of mean values</i>	—			2,086	1,193	0,888	0,802	0,566	0,302	0,268	0,127	0,072	0,043
<i>P90M = 90% Percentile of mean values</i>	—			3,438	1,244	0,984	0,940	0,748	0,420	0,334	0,196	0,120	0,114
<i>P95M = 95% Percentile of mean values</i>	—			3,438	1,244	0,984	0,940	0,748	0,420	0,334	0,196	0,120	0,114

Table 11: Statistical evalution of the results of drift measurements for field crops, early and late growth stage

Table 12: Statistical evaluation of the results of drift measurements for grapevine, early growth stage

Table 13: Statistical evaluation of the results of drift measurements for grapevine, late growth stage

Figures in % of the application rate				Last update: 21.11.94						
Characteristic	Trial No.	Trial station	Dishes	Distance						
				3 m	5 m	7.5 m	10 m	15 m	20 m	30 m
<i>Mean values x</i>	96	Hoechst/1	6	6,238	2,917	1,734	1,110	0,499	0,337	0,107
	97	Hoechst/2	6	6,172	3,208	1,857	0,860	0,647	0,386	0,114
	98	Hoechst/3	6	5,882	3,170	1,814	1,011	0,449	0,307	0,137
	99	Hoechst/4	6	5,494	3,241	1,727	1,086	0,472	0,290	0,107
	100	Hoechst/5	6	5,015	3,284	1,650	0,993	0,387	0,207	0,065
	49	Bayer/I	10	2,305	1,327	0,929	0,638	0,254	0,182	0,116
	50	Bayer/II	10	6,534	3,797	1,946	1,282	0,520	0,283	0,179
	51	Bayer/III	10	5,688	3,438	1,708	1,119	0,583	0,213	0,159
	52	Bayer/IV	10	2,868	1,215	0,631	0,383	0,182	0,113	0,041
	53	Bayer/V	10	3,764	1,575	1,014	0,719	0,377	0,151	0,076
	54	Bayer/VI	10	4,917	2,353	1,293	0,805	0,301	0,137	0,061
<i>Overall mean x</i>				4,989	2,684	1,482	0,910	0,425	0,237	0,106
<i>Standard deviation s of mean values x</i>				1,418	0,915	0,442	0,259	0,141	0,089	0,043
$VB80 = \bar{x} + 0,84 * s$				6,180	3,453	1,853	1,127	0,543	0,312	0,141
$VB90 = \bar{x} + 1,28 * s$				6,804	3,856	2,048	1,241	0,605	0,351	0,160
$VB95 = \bar{x} + 1,64 * s$				7,314	4,185	2,207	1,335	0,656	0,383	0,175
$P80E = 80\% \text{ Percentile of individual values}$				6,193	3,536	1,952	1,205	0,551	0,330	0,150
$P90E = 90\% \text{ Percentile of individual values}$				6,708	4,372	2,365	1,458	0,650	0,389	0,185
$P95E = 95\% \text{ Percentile of individual values}$				7,456	5,247	2,620	1,737	0,848	0,435	0,209
$P80M = 80\% \text{ Percentile of mean values}$				6,212	3,376	1,839	1,115	0,558	0,325	0,141
$P90M = 90\% \text{ Percentile of mean values}$				6,238	3,725	1,928	1,249	0,634	0,376	0,172
$P95M = 95\% \text{ Percentile of mean values}$				6,534	3,797	1,946	1,282	0,647	0,386	0,179

Table 14: Statistical evaluation of the results of drift measurements for fruit crops, early growth stage

Figures in % of the application rate										Last update:	21.11.94	
Characteristic	Trial No.	Trial station	Dishes	Distance								
				3 m	5 m	7.5 m	10 m	15 m	20 m	30 m	40 m	50 m
<i>Mean values x</i>	225	BASF/DU 1	10	15,118	8,708	3,892	2,085	0,674	0,275	0,077	0,038	0,053
	226	BASF/DU 2	10	13,730	8,805	4,138	2,783	0,995	0,403	0,145	0,081	0,032
	227	BASF/DU 3	10	14,331	7,315	3,314	1,939	0,688	0,270	0,079	0,041	0,029
	228	BASF/DU 4	10	15,280	9,700	4,440	2,610	0,810	0,320	0,080	0,020	0,000
	229	BASF/DU 5	10	3,810	1,530	0,610	0,340	0,200	0,160	0,060	0,000	0,010
	230	BASF/DU 1	10	15,650	8,250	5,100	3,560	1,690	1,050	0,330	0,090	0,010
	231	BASF/DU 2	10	13,210	7,930	5,000	3,250	1,640	1,140	0,360	0,100	0,010
	232	BASF/DU 3	10	16,290	11,130	8,010	6,410	3,400	2,290	0,930	0,300	0,150
	233	BASF/DU 4	10	18,740	11,870	7,340	4,750	2,930	1,630	0,540	0,120	0,050
	234	BASF/DU 5	10	16,950	9,320	6,280	4,590	2,170	1,480	0,530	0,190	0,130
	235	BASF/DU 1	10	9,780	12,860	8,610	5,720	2,780	1,890	0,850	0,330	0,150
	236	BASF/DU 2	10	16,470	10,400	7,570	4,790	2,590	1,570	1,460	0,270	0,070
	237	BASF/DU 3	10	17,130	10,970	7,420	5,050	2,540	1,540	0,570	0,210	0,110
	238	BASF/DU 4	10	15,940	10,390	6,450	4,100	1,890	1,090	0,390	0,090	0,070
	239	BASF/DU 5	10	11,680	7,640	5,330	3,150	1,760	1,140	0,450	0,160	0,090
	191	Bayer/1	10	16,810	12,920	10,340	7,180	3,330	2,270	0,990	-	-
	192	Bayer/2	10	16,130	11,260	9,440	7,490	3,230	2,260	1,360	-	-
	193	Bayer/3	10	19,810	13,670	11,270	9,680	4,500	2,470	0,770	-	-
	194	Bayer/4	10	14,820	9,910	8,230	6,800	2,840	2,000	1,210	-	-
	195	Bayer/5	10	19,870	13,710	11,840	9,550	5,820	4,320	2,020	-	-
	196	Bayer/1	10	22,910	14,930	11,290	7,180	3,830	2,140	1,340	-	-
	197	Bayer/2	10	22,450	13,740	9,680	7,370	4,640	3,370	2,060	-	-
	198	Bayer/3	10	26,460	16,760	11,970	8,400	4,690	2,920	1,410	-	-
	199	Bayer/4	10	22,470	16,020	10,770	8,010	4,380	2,870	1,470	-	-
	200	Bayer/5	10	22,610	15,420	9,960	6,550	3,340	1,820	1,060	-	-
	201	Bayer/6	10	21,560	15,410	12,020	8,150	4,940	3,160	1,670	-	-
	202	Bayer/A	10	26,210	19,090	12,350	8,580	3,789	2,850	1,000	-	-
	203	Bayer/B	10	23,370	16,950	10,880	7,210	3,230	2,690	1,340	-	-
	204	Bayer/C	10	23,520	14,110	8,710	5,840	2,670	1,950	0,820	-	-
	205	Bayer/D	10	24,530	16,590	11,390	7,240	2,910	1,800	0,690	-	-
	206	Bayer/E	10	25,250	15,420	10,960	7,590	4,580	3,760	1,630	-	-
<i>Overall mean x</i> =				18,1577	12,0235	8,21303	5,74023	2,8863	1,8999	0,8933	0,172	0,100
<i>Standard deviation s of mean values x</i> =				6,033	4,249	3,381	2,587	1,485	1,092	0,595	0,106	0,052
<i>VB80 = x + 0,84 * s</i>				23,226	15,593	11,053	7,914	4,134	2,817	1,393	0,261	0,144
<i>VB90 = x + 1,28 * s</i>				25,880	17,462	12,540	9,052	4,788	3,298	1,654	0,308	0,167
<i>VE95 = x + 1,64 * s</i>				28,052	18,992	13,757	9,984	5,322	3,691	1,868	0,346	0,186
<i>P80E = 80% Percentile of individual values</i>				23,700	16,000	11,500	8,300	4,300	2,800	1,400	0,200	0,100
<i>P90E = 90% Percentile of individual values</i>				26,200	18,080	12,980	9,300	5,340	3,690	1,700	0,300	0,200
<i>P95E = 95% Percentile of individual values</i>				29,550	19,490	14,090	10,600	6,170	4,200	2,000	0,400	0,200
<i>P80M = 80% Percentile of mean values</i>				23,186	15,420	11,282	7,842	4,452	2,862	1,440	0,258	0,126
<i>P90M = 90% Percentile of mean values</i>				25,106	16,726	11,944	8,544	4,680	3,328	1,662	0,312	0,150
<i>P95M = 95% Percentile of mean values</i>				26,310	17,806	12,152	9,602	5,292	3,984	2,036	0,330	0,150

Table 15: Statistical evaluation of the results of drift measurements for fruit crops, late growth stage

Figures in % of the application rate				Last update: 16.1.95						
Characteristic	Trial No.	Trial station	Dishes	Distance						
				3 m	5 m	7.5 m	10 m	15 m	20 m	30 m
<i>Mean values x</i>	101	BASF/DU 2	10	7,540	3,442	2,123	1,664	1,159	0,841	0,484
	102	BASF/DU 3	10	7,639	4,470	2,469	1,526	0,830	0,573	0,309
	103	BASF/DU 4	10	3,765	2,015	1,289	1,119	0,598	0,458	0,295
	104	BASF/DU 5	10	3,990	2,558	1,435	0,930	0,519	0,358	0,204
	43	Bayer/I	10	9,217	5,607	4,103	2,802	1,885	0,999	0,498
	44	Bayer/II	10	5,959	4,947	3,467	1,969	0,904	0,488	0,241
	45	Bayer/III	10	6,372	4,868	3,738	2,942	1,937	1,011	0,289
	46	Bayer/IV	10	4,631	3,026	1,620	1,334	0,268	0,410	0,231
	47	Bayer/V	10	7,297	4,174	2,942	2,289	1,357	0,828	0,234
	48	Bayer/VI	10	4,136	2,808	2,144	1,761	0,941	0,677	0,403
	16	SL/V3	4	7,520	4,120	1,505	0,648	0,295	0,145	0,063
	17	SL/V4	4	4,635	1,745	0,280	0,103	0,055	0,060	0,055
	18	SL/V5	4	8,323	3,890	1,380	0,380	0,133	0,090	0,085
	19	SL/V6	4	8,750	2,370	0,260	0,130	0,110	0,100	0,098
	20	SL/V7	4	5,898	3,270	0,945	0,358	0,015	0,015	0,015
	22	SL/V9	4	4,883	3,955	1,990	1,353	0,660	0,223	0,088
	23	SL/V10	4	7,883	1,658	0,110	0,050	0,043	0,055	0,053
	163	FhG/1	5	5,120	2,580	0,900	0,400	0,210	0,100	0,040
	164	FhG/2	5	-	3,900	2,640	1,580	0,720	0,314	0,074
	165	FhG/3	5	12,520	7,040	3,760	3,575	1,142	0,604	0,120
	166	FhG/4	5	11,200	7,100	5,100	3,600	1,220	0,502	0,086
	167	FhG/5	5	4,540	2,400	0,900	0,676	0,428	0,212	0,082
	168	FhG/6	5	10,780	5,840	2,340	2,380	0,940	0,302	0,104
	169	FhG/7	5	10,720	8,240	4,940	2,920	2,620	1,580	0,576
	1	SL/090-1	4	10,073	3,358	1,085	0,730	0,275	0,075	0,018
	2	SL/090-2	4	20,853	8,393	3,813	2,420	0,853	0,415	0,165
	3	SL/090-3	4	11,363	10,138	5,588	3,775	1,845	0,808	0,313
	4	SL/090-4	4	17,113	9,548	4,318	2,870	1,098	0,420	0,138
	5	SL/090-5	4	18,590	9,413	5,703	4,763	2,518	1,455	0,675
	6	SL/090-6	4	24,943	10,855	5,660	4,205	1,730	1,065	0,513
<i>Overall mean x</i> —				9,181	4,924	2,618	1,842	0,910	0,506	0,218
<i>Standard deviations of mean values x</i> —				5,464	2,793	1,751	1,343	0,733	0,417	0,184
<i>VB80 = <math>x \pm 0,84 * s</math></i>				13,771	7,271	4,089	2,970	1,526	0,856	0,372
<i>VB90 = <math>x \pm 1,28 * s</math></i>				16,176	8,500	4,859	3,560	1,848	1,040	0,453
<i>VB95 = <math>x \pm 1,64 * s</math></i>				18,143	9,505	5,489	4,044	2,112	1,190	0,519
<i>P80E = 80% Percentile of individual values</i>				11,350	7,000	4,340	2,960	1,500	0,830	0,370
<i>P90E = 90% Percentile of individual values</i>				15,540	8,672	5,206	3,609	1,864	1,152	0,500
<i>P95E = 95% Percentile of individual values</i>				19,666	10,062	6,358	4,369	2,454	1,380	0,640
<i>P80M = 80% Percentile of mean values</i>				11,363	8,012	4,275	2,938	1,655	0,967	0,385
<i>P90M = 90% Percentile of mean values</i>				18,590	9,534	5,539	3,758	1,932	1,060	0,511
<i>P95M = 95% Percentile of mean values</i>				22,898	10,460	5,679	4,456	2,564	1,511	0,621

Table 16: Statistical evaluation of the results of drift measurements for hops, early growth stage

Figures in % of the application rate				Last update:		12.1.95				
Characteristic	Trial No.	Trial station	Dishes	Distance						
				5 m	7.5 m	10 m	15 m	20 m	30 m	50 m
<i>Mean values x</i>	115	Hoechst/1	6	14,125	7,169	4,155	1,416	0,682	0,298	0,103
	116	Hoechst/2	6	2,728	0,630	0,165	0,053	0,066	0,013	0,005
	117	Hoechst/3	6	0,188	0,102	0,072	0,053	0,038	0,031	0,027
	118	Hoechst/4	6	10,146	6,037	3,418	1,458	0,726	0,209	0,085
	119	Hoechst/5	6	3,418	2,133	1,458	0,510	0,166	0,041	0,033
	24	SL/H 90-1	5	3,650	0,884	0,544	0,144	0,086	0,062	0,036
	25	SL/H 90-2	5	8,968	2,488	1,236	0,230	0,088	0,020	0,012
	26	SL/H 90-3	5	6,986	3,208	2,130	0,660	0,314	0,126	0,044
	27	SL/H 90-4	5	11,178	4,258	3,700	1,348	0,556	0,126	0,014
<i>Overall mean x</i>	<hr/>									
<i>Standard deviations of mean values s</i>	<hr/>									
$VB80 = \bar{x} + 0,84 * s$	6,821	2,990	1,875	0,652	0,302	0,103	0,040			
$VB90 = \bar{x} + 1,28 * s$	4,615	2,443	1,562	0,601	0,280	0,098	0,033			
$VB95 = \bar{x} + 1,64 * s$	10,698	5,042	3,187	1,157	0,537	0,185	0,068			
$P80E = 80\% \text{ Percentile of individual values}$	12,728	6,117	3,874	1,422	0,660	0,228	0,083			
$P90E = 90\% \text{ Percentile of individual values}$	14,390	6,996	4,436	1,638	0,761	0,263	0,095			
$P95E = 95\% \text{ Percentile of individual values}$	11,088	5,134	3,542	1,368	0,670	0,214	0,084			
$P80M = 80\% \text{ Percentile of mean values}$	13,248	7,067	4,146	1,595	0,729	0,267	0,110			
$P90M = 90\% \text{ Percentile of mean values}$	18,007	8,509	4,785	1,663	0,795	0,324	0,120			
$P95M = 95\% \text{ Percentile of mean values}$	9,990	4,260	3,190	1,265	0,394	0,164	0,033			
	14,123	7,168	4,153	1,458	0,725	0,298	0,103			
	14,123	7,168	4,153	1,458	0,725	0,298	0,103			

Table 17: Statistical evaluation of the results of drift measurements for hops, late growth stage

## 7. Consideration of the basic spray drift values in the authorization procedure

According to § 15 of the Plant Protection Act, the authorization of a plant protection product can be granted a.o. under the condition that no untolerable effects on the normal processes in the environment are to be expected based on latest scientific knowledge. This also comprises the determination of a possible hazard to aquatic organisms. In this connection the exposure assessment is of decisive importance and this is made possible on the basis of the available results on the pollution of surface waters to be expected from spray drift. This assessment possibly necessitates an instruction to maintain a certain distance, which prohibits negative effects on the aquatic biocoenosis in a body of water being located at the defined distance from the treated area or even further away. In doing so it is assumed that the plant protection products are applied according to Good Agricultural Practise (wind speed < 5 m/s; temperature < 25°C). The results of drift measurements summarized in this paper have been used to deduce "basic drift values" which are now taken as a basis for the evaluation in the authorization procedure by the BBA and the Authorities of Consent, Environmental Health Office and Federal Institute for Health Protection of the Consumer and Veterinary Medicine.

The 95 %-percentiles of the individual measured values determined for one distance were taken into consideration for the conversion of the measured values into basic drift values (see chapter 6.4). This guarantees that a great part of the possible exposures of aquatic organisms in the field are ruled out from the beginning. Therefore negative effects on the aquatic biocoenosis are likely to occur in extreme situations only. The 95 %-percentiles calculated for the criteria, growth stages and distances are represented in Table 18. The basic drift values deduced from these data are shown in Table 19. It is remarkable how great the differences are between the values for the use in early and those for the use in late growth stages in fruit crops. This is to be attributed to the

Table 18 : 95 %-percentiles determined on base of the measured drift values (deposited drift material)

Distance [m]	Field crops			Grapevine			Tall growing crops			Hops		
	f	s	f+s	f	s	f	s	f	s	f	s	
1	4.0	5.0	4.0	23.2	20.0	46.2	26.7	47.6	23.4			
2	1.6	1.8	1.6	8.0	12.0	34.5	22.3	39.9	19.9			
3	0.9	1.4	1.0	4.9	7.5	29.6	19.6	32.3	17.7			
4	0.6	1.0	0.9	2.6	5.8	23.8	15.3	26.1	15.4			
5	0.5	0.7	0.6	1.6	5.2	19.5	10.1	18.0	12.7			
7.5	0.3	0.5	0.4	1.0	2.6	14.1	6.4	8.5	10.8			
10	0.3	0.4	0.3	0.4	1.7	10.6	4.4	4.8	8.9			
15	0.2	0.2	0.2	0.2	0.8	6.2	2.5	1.7	4.7			
20	0.1	0.1	0.1	0.1	0.4	4.2	1.4	0.8	3.8			
30	0.1	0.1	0.1	0.1	0.2	2.0	0.6	0.3	2.1			
40	—	—	—	0.1	—	0.4	—	0.1	0.3			
50	—	—	—	0.1	—	0.2	—	0.1	0.3			

Remarks:

Soil sediments in % (95 % - percentile of the individual values),  
relative to the application rate in l/ha or kg/haf early growth stages  
s late growth stages  
— values not determined

Table 19: Basic drift values agreed upon between BBA, UBA und BGA

Distance [m]	Field crops		Tall growing crops		Hops f+s		Vegetables Ornamentals Small fruit (pedestrian sprayer)	
	f+s	f	Fruit crops	s	f	s	H < 50 cm	H ≥ 50 cm
5	0.6	1.6	5.0	20.0	10.0	12.5	0.6	5.0
10	0.4	0.4	1.5	11.0	4.5	9.0	0.4	1.5
15	0.2	0.2	0.8	6.0	2.5	5.0	0.2	0.8
20	0.1	0.1	0.4	4.0	1.5	4.0	0.1	0.4
30	0.1	0.1	0.2	2.0	0.6	2.0	0.1	0.2
40	—	—	0.1	0.2	0.4	0.4	—	0.2
50	—	—	0.1	0.2	0.2	0.2	0.3	—

Remarks:

Basic drift values in %, relative to the application rate in l/ha or kg/ha

- values not defined
- f early growth stages
- s late growth stages

fact that the trees are thinly leaved in the early growth stages and consequently the screening effect for the areas being behind the treated crop, seen from the sprayer, is low.

The values for distances of 40 and 50 m in the late growth stages have not been measured but were taken over from the early growth stages since higher values than there were not to be expected on account of the greater screening effect. This made a special measuring program for these distances unnecessary. The possibility to consider values for a distance of 50 m from now on allows to authorize more products based on the present procedure or to consider more uses for authorization.

The basic drift values having been determined for the late growth stages in grapevine are considerably higher than those for the early growth stages. This difference is brought about by the fact that air-blast sprayers were used for the application in the trials in late growth stages which generally results in increased amounts of substance being drifted. The values for the distances of 40 and 50 m in the late growth stages have not been measured. It is rather the value for the distance of 30 m which was taken over, since an increase of the values with increased distance from the crop is not to be expected. Owing to a lack of results of measurement, nothing can be said about a possible reduction of the values. In comparison to the basic drift values being valid so far, a sediment of only 0.1 % (formerly 0.3 %) of the rate of application is to be entered in the calculation for a distance of 20 m in the early growth stages so that a respective reduction of the distances can be justified.

It is difficult to interpret the basic drift values for the early growth stages in grapevine with a distance of 20 m and more where equal values have been determined. This phenomenon can only be partly explained by bringing the data up or down to round figures. It is hard to decide whether it is caused by the measuring technique since control values for the individual distances are not available. Another explanation is the slow

settlement of drifted low-density particles to the ground. Further measurements will likely have to be carried out to clarify these facts.

The distinction between early and late growth stages originally projected for hops was not made, since the differences between the drift values were not significant. At a distance of 5 m a considerably higher value was determined for the early growth stages in comparison to the late growth stages. In the late growth stages the values are observed to decrease only gradually with increasing distance, whereas in the early growth stages the decrease is considerably stronger so that in this case just 0.1 % were determined at a distance of 50 m. Therefore there will be no greater changes in the authorization procedure in comparison to the basic drift values having been valid so far.

The values in field crops were summarized for the same reasons as those in hops. The values for 20 and 30 m are equal only because the actually measured values were brought up or down to round figures. The basic drift values for field crops allow to differentiate between a greater number of distances to be specified in the instruction. So far distances of 10 m had been specified almost exclusively, whereas a reduction to 5 m is possible for substances being relatively harmless. On the other hand it may also be necessary to provide for a distance of 20 m to waters for products with a particularly high risk potential.

The values for field crops are used to assess the application with portable equipment in crops up to a height of 50 cm at the time of application. Applications in higher crops are assessed on the basis of the data determined for the late growth stages in grapevine. This procedure was chosen on account of the comparability of the conditions being decisive for the spray drift in the crops mentioned with those given during the application with portable equipment. A special measuring program was neither considered to be technically necessary nor to be financially justified. Results of treatments in cultivated forests (piles of wood, individual trunks) are

available from studies which had been submitted by companies to the authorization authorities, yet cannot be published for legal reasons and could not be used for the benefit of other authorization petitioners. The aerial application of plant protection products is regulated by the German Länder authorities in each individual case, with the distance to waters being specified at the same time.

An important prerequisite for the efficiency of the instruction to maintain a certain distance with regard to the protection of aquatic biocoenoses is that the plant protection products be applied in compliance with the principles of Good Agricultural Practice. This comprises a.o. the application during low wind velocities only, the use of approved equipment as well as the application under favourable climatic conditions only. If these rules are not observed, it must be expected that larger amounts of plant protection products will be drifted than specified by the basic drift values.

The concentrations of a plant protection product or its active ingredient to be expected at the respective distance from the treated area are determined by means of the basic drift values for a model body of water with a depth of 30 cm (PEC = predicted environmental concentration). Usually the rate per m<sup>2</sup> is related to a water volume of 300 l for this purpose. Subsequently the PEC is determined for the individual distances on basis of the basic drift values and compared with the concentration having been determined to be harmless to the most sensitive species (NOEC = no observed effect concentration). In case of the distance being specified in the instruction, the PEC is below the NOEC so that negative effects on aquatic organisms are not to be expected [7, 8, 9]. Incidentally, the depth of the model body of water is quite commonly used in other countries, too. A depth of 25 cm is considered to be representative in the Netherlands, whereas the respective value in Canada is 15 cm.

In case of particularly toxic products or active ingredients a hazard to aquatic organisms cannot be precluded even when

specifying in the instruction the largest distance being substantiated by results of measurements. In these cases a risk/benefit-assessment is made in order to decide on the justifiability of the effects on normal processes in the environment which are to be expected. Based on such assessment larger distances may even be specified in individual cases. More frequently, however, certain uses are simply not authorized. As a result of this the number of products being available for certain indications particularly in tall growing crops is reduced and consequently the authorized products are applied more frequently.

In future the use of recycling equipment being examined and approved by BBA offers an additional possibility to reduce the spray drift, since a great part of the plant protection products not adhering to the target crop is collected and returned [10]. The use of this technique allows to considerably reduce the specified distances for wind speeds < 5 m/s and temperatures < 25 °C for the protection of aquatic organisms.

The amounts of plant protection products being transported into waters by spray drift as a function of the fields of use are also taken into consideration in the Netherlands. The Dutch authorities start out on principle from an amount of 1 % being carried away by spray drift in field crops with a height of up to 25 cm. In case of higher crops (oil seed rape, cereals, etc.) they start out from an amount of 5 %. In tall growing crops the respective value is 10 % if the spray nozzles are oriented in the lateral or upward direction during application. A value of 0.5 % of the rate of application is taken into consideration in the assessment for knapsack sprayers and band treatments. No distinction is made in the assessment between different distances. In Canada the distance to bodies of water is specified to be 15 m for all uses with exception of aerial applications whereas in the United Kingdom the respective distance is only 6 m. In the United States the decision is made in the individual case in coordination with agricultural organizations. Larger research projects are presently being carried out in the States as well as in other countries to

develop the basis for a scientifically founded quantification of the amounts of plant protection products being carried away from agriculturally used areas by spray drift [11].

Based on the results represented in this paper, the authorities being involved in the authorization procedure in Germany are in a favourable situation in the international comparison, since the transportation of plant protection products into surface waters can be minimized on a scientific basis by means of the basic drift values. Incidentally, the basic drift values can be used in future not only for the exposure assessment for aquatic organisms but also in other fields.

List of references:

- [1] Göhlich, H.; Hosseinipour, M. u. v. Oheimb, R.: Einfluß klimatischer und gerätetechnischer Faktoren auf die Drift im Pflanzenschutz.  
Nachrichtenblatt des Deutschen Pflanzenschutzdienstes (Braunschweig), 31 (1979), H. 1, S. 1 ff.
- [2] Göhlich, H.: Abdrift im Pflanzenschutz unter Berücksichtigung von Meßergebnissen am Steilhang.  
Nachrichtenblatt des Deutschen Pflanzenschutzdienstes (Braunschweig), 34 (1982), H. 7, S. 100 ff.
- [3] Ganzelmeier, H.: Abtrift beim Einsatz von Sprüh- und Stäubegeräten im Obst- und Ackerbau.  
Grundlagen der Landtechnik 36 (1986), H. 6, S. 174 ff.
- [4] Ganzelmeier, H.; Rautmann, D. u. a.: Messung der direkten Abtrift beim Ausbringen von flüssigen Pflanzenschutzmitteln im Freiland.  
Biologische Bundesanstalt für Land- und Forstwirtschaft, Richtlinien für die Prüfung von Pflanzenschutzgeräten, Teil VII, 2-1.1, September 1992
- [5] Salyani, R. u. Cromwell, R. P.: Spray drift from ground and aerial applications.  
Transactions of the ASAE, 35 (1992), H. 4, S. 1113 ff.
- [6] Fox, R. D.; Reichard, R. D.; Brazee, R. O.; Krause, C. R. and Hall, F. R.: Downwind residues from spraying a semi-dwarf apple orchard.  
Transactions of the ASAE, 36 (1993), H. 2, S. 333 ff.
- [7] Köpp, H. (1993): "Side-effects on aquatic organisms". In "Criteria for assessment of plant protection products in the registration procedure", S. 72 - 84. Mitt. Biol. Bundesanst. Land-Forstwirtsch., Berlin-Dahlem.

- [ 8 ] Ganzelmeier, H.; Köpp, H.; Spangenberg, R.; Streloke, M. (1993): "Wann Pflanzenschutzmittel Abstandsauflagen erhalten". *Pflanzenschutz-Praxis* 3: 14 - 15
- [ 9 ] Ganzelmeier, H.: Drift of plant protection products in field crops, vineyards, orchards and hops. In Tagungsband: Second International Symposium on Pesticides Application Techniques, Straßburg, 22. - 24. Sept. 1993, Volume 1, P. 125 -132
- [10] Ganzelmeier, H. u. Osteroth H.J.: Sprühgeräte für Raumkulturen - Verlustmindernde Gerät - Gesunde Pflanze 46, 1994 (H. 7) S. 225-233
- [11] Anonym: "Environmental Assessment of Pesticides" in: Report of an International Workshop, Schmallenberg 17. - 19. March 1993, Herausgeber: Umweltbundesamt Berlin, S. 33

## Annex A: Results of the drift trials in field crops

A - 1

<b>Trial</b>												
No. :	179	carried out by/trial ident.:	BAYER / 1A			Date :	10.10.1990					
<b>Crop</b>												
Kind :	A	Growth stage :	0									
<b>Equipment</b>												
Manufacturer :	Hardi	Type of equipment	Twin	Nozzle :	4110 - 20							
Application rate :	300 l/ha	Spray pressure :	2,4 bar	Driving speed :	6 km/h							
Tracer :	OB 21	Dosage :	1 kg/ha									
<b>Weather</b>												
Wind speed :	2 m/s	Wind direction :	-11 ° deviation from main wind direction									
Temperature :	14 °C	rel. humidity :	74 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
0,64	0,62	0,51	0,43	0,32	0,24	0,13	0,08	0,04	0,06			
1,11	0,79	0,60	0,28	0,34	0,26	0,15	0,09	0,04	0,09			
2,50	0,70	0,55	0,34	0,30	0,19	0,15	0,08	0,08	0,06			
3,93	1,54	0,90	0,51	0,24	0,21	0,19	0,09	0,08	0,04			
4,00	1,65	0,79	0,43	0,32	0,21	0,13	0,08	0,06	0,04			

<b>Trial</b>												
No. :	180	carried out by/trial ident.:	BAYER / 1B			Date :	10.10.1990					
<b>Crop</b>												
Kind :	A	Growth stage :	0									
<b>Equipment</b>												
Manufacturer :	Hardi	Type of equipment	Twin	Nozzle :	4110 - 20							
Application rate :	300 l/ha	Spray pressure :	2,4 bar	Driving speed :	6 km/h							
Tracer :	OB 21	Dosage :	1 kg/ha									
<b>Weather</b>												
Wind speed :	2 m/s	Wind direction :	5 ° deviation from main wind direction									
Temperature :	15 °C	rel. humidity :	74 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
0,16	0,10	0,08	0,12	0,08	0,04	0,04	0,02	0,04	0,00			
0,24	0,12	0,08	0,16	0,06	0,06	0,04	0,02	0,02	0,00			
0,42	0,14	0,12	0,12	0,06	0,04	0,02	0,02	0,06	0,00			
0,53	0,12	0,06	0,12	0,06	0,04	0,04	0,04	0,00	0,00			
1,32	0,24	0,14	0,08	0,14	0,10	0,02	0,00	0,02	0,00			

<b>Trial</b>												
No. :	181	carried out by/trial ident.:			BAYER / 1C	Date :			10.10.1990			
<b>Crop</b>												
Kind :	A	Growth stage :			0							
<b>Equipment</b>												
Manufacturer :	Hardi	Type of equipment	Twin	Nozzle :	4110 - 20							
Application rate :	300 l/ha	Spray pressure :	2,4 bar	Driving speed :	6 km/h							
Tracer :	OB 21	Dosage :	1 kg/ha									
<b>Weather</b>												
Wind speed :	2,6 m/s	Wind direction :	17 ° deviation from main wind direction									
Temperature :	15 °C	rel. humidity :	74 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
2,91	0,79	0,60	0,31	0,23	0,15	0,10	0,04	0,00	0,00			
3,26	1,25	0,58	0,37	0,27	0,17	0,10	0,04	0,00	0,00			
3,43	1,64	1,19	0,58	0,46	0,19	0,12	0,04	0,02	0,00			
3,91	0,98	0,56	0,35	0,23	0,08	0,06	0,02	0,00	0,00			
4,03	1,19	0,64	0,52	0,39	0,10	0,06	0,02	0,00	0,00			

<b>Trial</b>												
No. :	210	carried out by/trial ident.:			HOECHST / Kel2-16	Date :			10.10.1990			
<b>Crop</b>												
Kind :	A	Growth stage :			0							
<b>Equipment</b>												
Manufacturer :	Hardi	Type of equipment	361	Nozzle :	11004							
Application rate :	300 l/ha	Spray pressure :	2,5 bar	Driving speed :	6 km/h							
Tracer :	BSF	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	1,9 m/s	Wind direction :	9 ° deviation from main wind direction									
Temperature :	14 °C	rel. humidity :	83 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
0,50	0,35	0,37	0,25	0,27	0,29	0,26	0,15	0,08	0,06			
0,65	0,48	0,60	0,54	0,59	0,32	0,23	0,16	0,06	0,03			
0,67	0,50	0,37	0,15	0,15	0,11	0,16	0,07	0,02	0,01			
0,72	0,46	0,32	0,21	0,27	0,14	0,08	0,05	0,01	0,01			
1,30	0,57	0,40	0,32	0,31	0,23	0,27	0,21	0,09	0,03			
1,31	0,82	0,78	0,57	0,53	0,18	0,19	0,11	0,12	0,01			

**Trial**

No. : 211 carried out by/trial ident.: HOECHST / Kel2-17 Date : 10.10.1990

**Crop**

Kind : A Growth stage : 0

**Equipment**

Manufacturer :	Hardi	Type of equipment	361	Nozzle :	11004
Application rate :	300 l/ha	Spray pressure :	2,5 bar	Driving speed :	6 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed :	2 m/s	Wind direction :	4 ° deviation from main wind direction
Temperature :	15 °C	rel. humidity :	81 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
0,15	0,18	0,08	0,06	0,08	0,04	0,04	0,04	0,02	0,01		
0,25	0,16	0,13	0,09	0,07	0,08	0,05	0,04	0,03	0,02		
0,26	0,23	0,20	0,13	0,12	0,06	0,06	0,02	0,02	0,02		
0,26	0,26	0,15	0,20	0,16	0,08	0,05	0,04	0,02	0,03		
0,27	0,45	0,26	0,14	0,26	0,13	0,15	0,07	0,04	0,04		
0,37	0,25	0,28	0,22	0,22	0,22	0,08	0,07	0,04	0,04		

**Trial**

No. : 212 carried out by/trial ident.: HOECHST / Kel2-18 Date : 12.09.1990

**Crop**

Kind : A Growth stage : 0

**Equipment**

Manufacturer :	Hardi	Type of equipment	361	Nozzle :	11004
Application rate :	300 l/ha	Spray pressure :	2,5 bar	Driving speed :	6 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed :	1,7 m/s	Wind direction :	6 ° deviation from main wind direction
Temperature :	15 °C	rel. humidity :	81 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
0,29	0,28	0,19	0,09	0,12	0,07	0,04	0,04	0,04	0,03		
0,34	0,32	0,23	0,09	0,12	0,11	0,15	0,04	0,02	0,02		
0,37	0,46	0,60	0,38	0,39	0,13	0,12	0,05	0,03	0,02		
0,51	0,36	0,46	0,33	0,30	0,20	0,24	0,09	0,05	0,04		
0,58	0,57	0,48	0,42	0,29	0,15	0,15	0,09	0,04	0,02		
0,60	0,31	0,27	0,14	0,19	0,09	0,08	0,09	0,05	0,02		

<b>Trial</b>											
No. :	213	carried out by/trial ident.: HOECHST / Kel2-19			Date :	12.09.1990					
<b>Crop</b>											
Kind :	A	Growth stage :	0								
<b>Equipment</b>											
Manufacturer :	Hardi	Type of equipment	361	Nozzle :	11004						
Application rate :	300 l/ha	Spray pressure :	2,5 bar	Driving speed :	6 km/h						
Tracer :	BSF	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	1,4 m/s		Wind direction :	29 ° deviation from main wind direction							
Temperature :	16 °C		rel. humidity :	79 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
1,10	0,88	0,34	0,20	0,17	0,04	0,06	0,03	0,01	0,01		
1,19	0,81	0,36	0,22	0,21	0,06	0,05	0,02	0,00	0,01		
1,55	1,02	0,34	0,20	0,20	0,11	0,06	0,02	0,01	0,01		
1,76	0,56	0,60	0,41	0,39	0,10	0,05	0,02	0,01	0,01		
2,22	0,80	0,72	0,34	0,29	0,08	0,06	0,02	0,01	0,01		
2,35	0,76	0,85	0,41	0,32	0,09	0,05	0,03	0,01	0,01		

<b>Trial</b>											
No. :	214	carried out by/trial ident.: HOECHST / Kel2-20			Date :	13.06.1991					
<b>Crop</b>											
Kind :	A	Growth stage :	0								
<b>Equipment</b>											
Manufacturer :	Hardi	Type of equipment	361	Nozzle :	11004						
Application rate :	300 l/ha	Spray pressure :	2,5 bar	Driving speed :	6 km/h						
Tracer :	BSF	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	1,1 m/s		Wind direction :	19 ° deviation from main wind direction							
Temperature :	16 °C		rel. humidity :	80 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
1,04	0,32	0,26	0,18	0,13	0,09	0,10	0,08	0,15	0,00		
1,43	0,63	0,30	0,37	0,27	0,19	0,13	0,05	0,01	0,01		
1,49	0,65	0,49	0,25	0,22	0,17	0,15	0,05	0,02	0,00		
1,66	1,16	0,92	0,41	0,29	0,18	0,07	0,02	0,00	0,00		
2,31	0,64	0,46	0,38	0,33	0,15	0,11	0,05	0,01	0,00		
2,33	0,60	0,22	0,19	0,16	0,11	0,07	0,06	0,04	0,01		

<b>Trial</b>											
No. :	185	carried out by/trial ident.:			BAYER / 1A	Date :			13.06.1991		
<b>Crop</b>											
Kind :	A	Growth stage :			51						
<b>Equipment</b>											
Manufacturer :	Hardi	Type of equipment	Twin	Nozzle :	4110 - 20						
Application rate :	300 l/ha	Spray pressure :	2,4 bar	Driving speed :	6 km/h						
Tracer :	OB 21	Dosage :	1 kg/ha								
<b>Weather</b>											
Wind speed :	3,2 m/s	Wind direction :	4 ° deviation from main wind direction								
Temperature :	15 °C	rel. humidity :	78 %								
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
1,69	0,92	0,67	0,42	0,37	0,18	0,31	0,21	0,18	0,16		
2,12	1,25	0,79	0,85	0,64	0,37	0,18	0,37	0,06	0,11		
2,72	0,95	0,69	0,84	0,37	0,32	0,29	0,14	0,13	0,08		
3,62	2,02	1,38	1,04	0,72	0,27	0,34	0,13	0,13	0,11		
7,04	1,08	0,79	0,69	0,50	0,22	0,14	0,13	0,10	0,11		

<b>Trial</b>											
No. :	186	carried out by/trial ident.:			BAYER / 2A	Date :			13.06.1991		
<b>Crop</b>											
Kind :	A	Growth stage :			51						
<b>Equipment</b>											
Manufacturer :	Hardi	Type of equipment	Twin	Nozzle :	4110 - 20						
Application rate :	300 l/ha	Spray pressure :	2,4 bar	Driving speed :	6 km/h						
Tracer :	OB 21	Dosage :	1 kg/ha								
<b>Weather</b>											
Wind speed :	2,6 m/s	Wind direction :	7 ° deviation from main wind direction								
Temperature :	16 °C	rel. humidity :	79 %								
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
0,50	0,61	0,63	0,50	0,61	0,33	0,27	0,19	0,06	0,00		
0,84	0,66	0,91	0,99	0,70	0,39	0,23	0,06	0,06	0,00		
0,88	0,99	0,63	0,72	0,63	0,47	0,52	0,16	0,06	0,00		
0,94	1,00	1,28	1,05	0,55	0,47	0,38	0,08	0,06	0,02		
5,58	2,64	1,47	1,44	1,25	0,44	0,27	0,06	0,06	0,00		

<b>Trial</b>												
No. :	187	carried out by/trial ident.:	BAYER / 3B			Date :	25.04.1990					
<b>Crop</b>												
Kind :	A	Growth stage :	51									
<b>Equipment</b>												
Manufacturer :	Hardi		Type of equipment	Twin		Nozzle :	4110 - 20					
Application rate :	300 l/ha		Spray pressure :	2,4 bar		Driving speed :	6 km/h					
Tracer :	OB 21		Dosage :	1 kg/ha								
<b>Weather</b>												
Wind speed :	3,6 m/s		Wind direction :	5 ° deviation from main wind direction								
Temperature :	15 °C		rel. humidity :	79 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
0,21	0,24	0,22	0,19	0,17	0,13	0,11	0,06	0,06	0,03			
0,29	0,27	0,29	0,19	0,13	0,10	0,11	0,06	0,00	0,02			
0,29	0,32	0,33	0,40	0,35	0,24	0,13	0,06	0,05	0,03			
0,57	0,33	0,24	0,22	0,17	0,10	0,16	0,06	0,03	0,00			
0,98	0,54	0,55	0,48	0,36	0,16	0,24	0,08	0,03	0,02			

<b>Trial</b>												
No. :	220	carried out by/trial ident.:	HOECHST / Kel1-1			Date :	25.04.1990					
<b>Crop</b>												
Kind :	A	Growth stage :	42/45									
<b>Equipment</b>												
Manufacturer :	Hardi		Type of equipment	361		Nozzle :	11004					
Application rate :	300 l/ha		Spray pressure :	2,5 bar		Driving speed :	6 km/h					
Tracer :	BSF		Dosage :	0,1 %								
<b>Weather</b>												
Wind speed :	,8 m/s		Wind direction :	40 ° deviation from main wind direction								
Temperature :	16 °C		rel. humidity :	66 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
0,36	0,18	0,16	0,09	0,04	0,01	0,00	0,00	0,00	0,00			
1,14	0,33	0,20	0,09	0,02	0,01	0,00	0,00	0,02	0,00			
1,70	0,20	0,14	0,08	0,03	0,01	0,00	0,00	0,00	0,00			
1,74	0,65	0,13	0,05	0,05	0,00	0,00	0,00	0,00	0,00			
2,25	0,12	0,09	0,08	0,05	0,03	0,00	0,00	0,00	0,00			
2,99	0,43	0,12	0,04	0,05	0,04	0,04	0,00	0,00	0,00			

**Trial**

No. : 221 carried out by/trial ident.: HOECHST / Kel1-2 Date : 25.04.1990

**Crop**

Kind : A Growth stage : 42/45

**Equipment**

Manufacturer :	Hardi	Type of equipment	361	Nozzle :	11004
Application rate :	300 l/ha	Spray pressure :	2,5 bar	Driving speed :	6 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed :	1,5 m/s	Wind direction :	42 ° deviation from main wind direction
Temperature :	11 °C	rel. humidity :	78 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
0,29	0,27	0,19	0,11	0,12	0,07	0,05	0,03	0,04	0,01		
0,32	0,19	0,19	0,19	0,16	0,08	0,07	0,09	0,01	0,02		
0,68	0,19	0,12	0,09	0,08	0,05	0,21	0,03	0,02	0,02		
0,71	0,26	0,13	0,13	0,09	0,06	0,04	0,06	0,04	0,01		
0,85	0,28	0,19	0,09	0,07	0,07	0,08	0,07	0,02	0,00		
1,22	0,26	0,16	0,16	0,11	0,07	0,08	0,06	0,02	0,01		

**Trial**

No. : 222 carried out by/trial ident.: HOECHST / Kel1-3 Date : 26.04.1990

**Crop**

Kind : A Growth stage : 42/45

**Equipment**

Manufacturer :	Hardi	Type of equipment	361	Nozzle :	11004
Application rate :	300 l/ha	Spray pressure :	2,5 bar	Driving speed :	6 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed :	1,2 m/s	Wind direction :	21 ° deviation from main wind direction
Temperature :	15 °C	rel. humidity :	67 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
0,44	0,20	0,13	0,08	0,07	0,13	0,04	0,02	0,01	0,02		
0,89	0,27	0,11	0,11	0,08	0,09	0,03	0,02	0,02	0,02		
1,07	0,20	0,16	0,13	0,09	0,09	0,05	0,02	0,02	0,01		
1,73	0,76	0,43	0,14	0,08	0,08	0,04	0,03	0,01	0,02		
1,84	0,19	0,08	0,09	0,10	0,03	0,04	0,01	0,01	0,07		
3,40	0,62	0,22	0,15	0,09	0,04	0,04	0,01	0,01	0,01		

**Trial**

No. : 223 carried out by/trial ident.: HOECHST / Kel1-7 Date : 26.04.1990

**Crop**

Kind : A Growth stage : 42/45

**Equipment**

Manufacturer :	Hardi	Type of equipment	361	Nozzle :	11004
Application rate :	300 l/ha	Spray pressure :	2,5 bar	Driving speed :	6 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed :	1,7 m/s	Wind direction :	10 ° deviation from main wind direction
Temperature :	17 °C	rel. humidity :	57 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
0,31	0,20	0,19	0,13	0,22	0,08	0,04	0,02	0,02	0,01		
0,40	0,09	0,12	0,12	0,08	0,03	0,02	0,03	0,01	0,01		
0,42	0,11	0,17	0,09	0,07	0,04	0,04	0,02	0,04	0,04		
0,47	0,30	0,12	0,11	0,12	0,04	0,04	0,03	0,01	0,02		
1,87	0,51	0,18	0,18	0,13	0,10	0,06	0,05	0,01	0,01		
1,95	0,74	0,18	0,19	0,10	0,07	0,06	0,04	0,02	0,01		

**Trial**

No. : 224 carried out by/trial ident.: HOECHST / Kel1-8 Date : 18.06.1990

**Crop**

Kind : A Growth stage : 42/45

**Equipment**

Manufacturer :	Hardi	Type of equipment	361	Nozzle :	11004
Application rate :	300 l/ha	Spray pressure :	2,5 bar	Driving speed :	6 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed :	2,1 m/s	Wind direction :	4 ° deviation from main wind direction
Temperature :	10 °C	rel. humidity :	82 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
0,23	0,25	0,15	0,09	0,08	0,05	0,05	0,04	0,04	0,04		
0,27	0,18	0,13	0,14	0,05	0,06	0,06	0,07	0,02	0,02		
0,28	0,15	0,16	0,15	0,08	0,05	0,05	0,04	0,02	0,02		
0,31	0,30	0,18	0,12	0,09	0,04	0,04	0,05	0,06	0,01		
0,32	0,30	0,27	0,15	0,13	0,06	0,06	0,05	0,04	0,01		
0,54	0,15	0,13	0,20	0,12	0,06	0,06	0,04	0,02	0,01		

## Annex B: Results of the drift trials in grapevine

B - 1

<b>Trial</b>											
No. :	240	carried out by/trial ident.: HOECHST / 1			Date :	14.05.1990					
<b>Crop</b>											
Kind :	W	Growth stage :			15						
<b>Equipment</b>											
Manufacturer :		Holder	Type of equipment	AS 310/TU 5	Nozzle :	ATP gelb					
Application rate :		400 l/ha	Spray pressure :	9 bar	Driving speed :	6,1 km/h					
Tracer :		Cu	Dosage :	0,3 %							
<b>Weather</b>											
Wind speed :		2,4 m/s	Wind direction :	15 ° deviation from main wind direction							
Temperature :		19 °C	rel. humidity :	49 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
5,33	2,54	2,03	1,39	0,25	0,16	0,09	0,04	0,04	0,01	0,01	0,00
6,09	6,09	2,54	1,07	0,30	0,11	0,06	0,05	0,04	0,01	0,00	0,00
6,34	2,41	1,78	1,27	0,48	0,24	0,13	0,04	0,05	0,01	0,01	0,00
7,99	1,90	1,52	0,93	0,44	0,19	0,11	0,01	0,04	0,01	0,00	0,00
11,41	7,10	3,42	0,82	0,47	0,15	0,09	0,05	0,03	0,01	0,00	0,00
15,72	7,99	1,78	0,41	0,23	0,15	0,10	0,04	0,03	0,00	0,01	0,04

<b>Trial</b>											
No. :	241	carried out by/trial ident.: HOECHST / 2			Date :	14.05.1990					
<b>Crop</b>											
Kind :	W	Growth stage :			15						
<b>Equipment</b>											
Manufacturer :		Holder	Type of equipment	AS 310/TU 5	Nozzle :	ATP gelb					
Application rate :		400 l/ha	Spray pressure :	9 bar	Driving speed :	6,1 km/h					
Tracer :		Cu	Dosage :	0,3 %							
<b>Weather</b>											
Wind speed :		2,3 m/s	Wind direction :	19 ° deviation from main wind direction							
Temperature :		19 °C	rel. humidity :	50 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
5,06	3,11	3,50	2,07	1,08	0,22	0,16	0,13	0,03	0,03	0,04	0,04
5,70	1,43	1,43	1,46	1,23	0,23	0,18	0,08	0,06	0,03	0,03	0,01
7,00	3,11	2,98	1,59	0,44	0,56	0,18	0,08	0,04	0,03	0,01	0,00
8,04	4,80	4,54	1,14	0,45	0,21	0,14	0,06	0,04	0,03	0,00	0,00
9,07	3,37	2,46	1,36	0,73	0,36	0,22	0,06	0,04	0,01	0,01	0,00
12,83	3,89	1,69	0,75	0,75	0,51	0,13	0,08	0,03	0,03	0,01	0,03

**Trial**

No. : 242 carried out by/trial ident.: HOECHST / 3

Date : 14.05.1990

**Crop**

Kind : W

Growth stage :

15

**Equipment**

Manufacturer :	Holder	Type of equipment AS 310/TU 5	Nozzle :	ATP gelb
Application rate :	400 l/ha	Spray pressure : 9 bar	Driving speed :	6,1 km/h
Tracer :	Cu	Dosage : 0,3 %		

**Weather**

Wind speed : 2,8 m/s Wind direction : 9 ° deviation from main wind direction

Temperature : 19 °C rel. humidity : 44 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
3,76	2,98	2,46	1,43	1,01	0,62	0,19	0,08	0,06	0,01	0,03	0,01
5,19	4,41	3,11	1,43	0,65	0,34	0,18	0,13	0,03	0,01	0,01	0,03
5,31	2,46	1,56	1,23	0,53	0,40	0,26	0,10	0,06	0,03	0,01	0,12
8,69	2,59	1,94	0,83	0,58	0,44	0,30	0,10	0,04	0,01	0,04	0,01
12,06	4,80	2,59	1,19	1,21	0,58	0,29	0,13	0,05	0,03	0,01	0,00
14,52	3,76	2,59	1,43	0,61	0,34	0,32	0,09	0,05	0,03	0,00	0,06

**Trial**

No. : 243 carried out by/trial ident.: HOECHST / 4

Date : 14.05.1990

**Crop**

Kind : W

Growth stage :

15

**Equipment**

Manufacturer :	Holder	Type of equipment AS 310/TU 5	Nozzle :	ATP gelb
Application rate :	400 l/ha	Spray pressure : 9 bar	Driving speed :	6,1 km/h
Tracer :	Cu	Dosage : 0,3 %		

**Weather**

Wind speed : 3 m/s Wind direction : 9 ° deviation from main wind direction

Temperature : 18 °C rel. humidity : 46 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
6,23	3,45	2,12	1,86	1,15	0,20	0,33	0,17	0,08	0,05	0,05	0,07
10,87	4,64	3,98	1,59	0,86	0,61	0,80	0,19	0,11	0,08	0,00	0,00
13,52	5,70	6,36	2,25	1,59	0,57	0,23	0,12	0,09	0,03	0,00	0,00
14,45	2,92	2,39	2,65	1,86	0,69	0,19	0,07	0,07	0,03	0,00	0,00
15,11	3,58	3,18	1,72	0,69	0,23	0,27	0,24	0,07	0,03	0,07	0,05
19,89	6,10	4,91	1,59	1,07	0,38	0,16	0,20	0,09	0,05	0,00	0,16

<b>Trial</b>												
No. :	244 carried out by/trial ident.: HOECHST / 5					Date :	14.05.1990					
<b>Crop</b>												
Kind :	W	Growth stage :	15									
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment AS 310/TU 5	Nozzle :	ATP gelb								
Application rate :	400 l/ha	Spray pressure :	9 bar	Driving speed :	6,1 km/h							
Tracer :	Cu	Dosage :	0,3 %									
<b>Weather</b>												
Wind speed :	2,9 m/s		Wind direction :	7 ° deviation from main wind direction								
Temperature :	17 °C		rel. humidity :	48 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
9,14	3,53	1,70	1,70	1,11	0,30	0,18	0,13	0,10	0,03	0,03	0,01	
9,14	3,66	1,70	1,96	0,55	0,25	0,26	0,12	0,17	0,03	0,00	0,17	
9,79	7,05	3,53	2,35	0,91	0,60	0,21	0,12	0,08	0,04	0,03	0,03	
9,93	3,00	2,87	1,70	0,55	0,99	0,33	0,22	0,08	0,01	0,00	0,00	
10,19	2,48	2,48	1,31	0,69	0,30	0,26	0,12	0,10	0,03	0,00	0,07	
13,58	4,05	3,66	2,74	1,44	0,61	0,21	0,10	0,07	0,07	0,04	0,04	

<b>Trial</b>												
No. :	245 carried out by/trial ident.: HOECHST / 6					Date :	15.05.1990					
<b>Crop</b>												
Kind :	W	Growth stage :	15									
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment AS 310/TU 5	Nozzle :	ATP gelb								
Application rate :	400 l/ha	Spray pressure :	9 bar	Driving speed :	6,1 km/h							
Tracer :	BSF	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	1,2 m/s		Wind direction :	38 ° deviation from main wind direction								
Temperature :	20 °C		rel. humidity :	52 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
5,38	1,42	0,97	0,38	0,32	0,11	0,08	0,07	0,02	0,05	0,00	0,01	
9,19	1,64	0,72	0,58	0,33	0,13	0,07	0,03	0,01	0,00	0,00	0,00	
11,33	3,35	1,31	0,46	0,31	0,12	0,12	0,05	0,04	0,02	0,00	0,01	
12,03	3,76	3,66	2,09	0,33	0,14	0,05	0,03	0,03	0,00	0,01	0,02	
12,86	2,87	1,57	0,80	0,25	0,20	0,12	0,04	0,04	0,00	0,01	0,02	
22,84	4,65	3,32	0,97	0,64	0,41	0,07	0,04	0,02	0,00	0,01	0,00	

<b>Trial</b>											
No. :	246	carried out by/trial ident.: HOECHST / 7			Date :	15.05.1990					
<b>Crop</b>											
Kind :	W	Growth stage :			15						
<b>Equipment</b>											
Manufacturer :	Holder	Type of equipment	AS 310/TU 5	Nozzle :	ATP gelb						
Application rate :	400 l/ha	Spray pressure :	9 bar	Driving speed :	6,1 km/h						
Tracer :	BSF	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	1,1 m/s	Wind direction :	21 ° deviation from main wind direction								
Temperature :	23 °C	rel. humidity :	48 %								
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
10,89	3,26	2,88	2,09	1,27	0,48	0,35	0,13	0,09	0,06	0,03	0,02
11,31	2,95	2,48	1,19	1,33	1,67	0,45	0,13	0,06	0,03	0,02	0,04
15,31	5,06	2,43	1,50	1,17	0,47	0,28	0,14	0,06	0,04	0,03	0,11
17,17	3,83	3,02	1,37	0,80	0,35	0,19	0,13	0,09	0,05	0,03	0,04
22,62	5,29	1,83	0,97	0,97	0,42	0,28	0,11	0,09	0,04	0,04	0,02

<b>Trial</b>											
No. :	247	carried out by/trial ident.: HOECHST / 8			Date :	15.05.1990					
<b>Crop</b>											
Kind :	W	Growth stage :			15						
<b>Equipment</b>											
Manufacturer :	Holder	Type of equipment	AS 310/TU 5	Nozzle :	ATP gelb						
Application rate :	400 l/ha	Spray pressure :	9 bar	Driving speed :	6,1 km/h						
Tracer :	BSF	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	1,6 m/s	Wind direction :	40 ° deviation from main wind direction								
Temperature :	22 °C	rel. humidity :	49 %								
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
6,21	2,58	1,53	1,22	0,76	0,36	0,17	0,07	0,06	0,02	0,01	0,00
16,14	4,88	3,08	2,50	1,10	0,88	0,21	0,10	0,05	0,02	0,00	0,01
20,30	4,77	2,26	0,91	0,56	0,46	0,30	0,09	0,07	0,03	0,01	0,02
22,49	6,48	2,59	1,80	0,60	0,35	0,31	0,10	0,07	0,04	0,01	0,02
23,23	7,90	5,07	3,92	1,71	1,16	0,39	0,14	0,08	0,04	0,01	0,01
32,86	8,42	1,60	0,84	0,77	0,30	0,24	0,11	0,09	0,03	0,00	0,02

<b>Trial</b>												
No. :	248	carried out by/trial ident.: HOECHST / 9			Date :	15.05.1990						
<b>Crop</b>												
Kind :	W	Growth stage :			15							
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	AS 310/TU 5	Nozzle :	ATP gelb							
Application rate :	400 l/ha	Spray pressure :	9 bar	Driving speed :	6,1 km/h							
Tracer :	BSF	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	1,3 m/s	Wind direction :	17 ° deviation from main wind direction									
Temperature :	21 °C	rel. humidity :	48 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
2,43	1,55	0,72	0,52	0,32	0,16	0,11	0,07	0,05	0,01	0,03	0,00	
3,05	2,45	0,64	0,38	0,23	0,14	0,12	0,04	0,03	0,01	0,03	0,00	
4,45	1,20	0,62	0,37	0,30	0,23	0,09	0,07	0,05	0,02	0,02	0,03	
4,62	2,03	0,59	0,39	0,30	0,15	0,08	0,07	0,07	0,03	0,00	0,00	
7,46	1,01	0,39	0,26	0,35	0,13	0,10	0,07	0,05	0,04	0,02	0,01	
8,25	1,46	0,78	0,32	0,25	0,14	0,08	0,06	0,03	0,01	0,01	0,00	

<b>Trial</b>												
No. :	249	carried out by/trial ident.: HOECHST / 16			Date :	15.05.1990						
<b>Crop</b>												
Kind :	W	Growth stage :			15							
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	AS 310/TU 5	Nozzle :	ATP gelb							
Application rate :	400 l/ha	Spray pressure :	9 bar	Driving speed :	6,1 km/h							
Tracer :	BSF	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	2,9 m/s	Wind direction :	13 ° deviation from main wind direction									
Temperature :	22 °C	rel. humidity :	49 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
6,30	4,51	2,76	1,43	1,28	0,53	0,16	0,13	0,12	0,04	0,04	0,07	
7,68	3,16	1,70	0,79	0,56	0,35	0,29	0,13	0,08	0,04	0,07	0,03	
10,00	2,68	1,52	1,36	0,75	0,50	0,21	0,11	0,10	0,07	0,05	0,04	
14,33	4,09	3,00	1,65	0,58	0,32	0,16	0,14	0,08	0,05	0,05	0,08	
21,42	4,44	3,18	1,82	0,80	0,32	0,20	0,11	0,10	0,04	0,04	0,03	
24,06	10,61	2,30	2,51	1,19	0,63	0,25	0,09	0,08	0,03	0,03	0,08	

<b>Trial</b>												
No. :	96	carried out by/trial ident.: HOECHST / 1			Date :	12.07.1990						
<b>Crop</b>												
Kind :	W	Growth stage :			31							
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	AS 310/TU 5	Nozzle :	ATP gelb							
Application rate :	600 l/ha	Spray pressure :	8,5 bar	Driving speed :	6,1 km/h							
Tracer :	Cu	Dosage :	0,3 %									
<b>Weather</b>												
Wind speed :	2,5 m/s	Wind direction :	19 ° deviation from main wind direction									
Temperature :	24 °C	rel. humidity :	43 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
7,10	9,92	6,42	4,67	2,53	1,94	0,64	0,65	0,49				
7,88	11,67	5,93	5,74	3,40	2,04	1,17	0,47	0,37				
8,56	6,61	6,90	3,79	2,33	1,26	0,64	0,39	0,26				
8,65	8,56	4,86	2,92	1,94	1,26	0,71	0,33	0,24				
8,85	9,04	6,71	4,47	4,47	2,92	2,04	0,82	0,47				
12,06	11,76	6,61	4,38	2,82	0,97	1,46	0,34	0,19				

<b>Trial</b>												
No. :	97	carried out by/trial ident.: HOECHST / 2			Date :	12.07.1990						
<b>Crop</b>												
Kind :	W	Growth stage :			31							
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	AS 310/TU 5	Nozzle :	ATP gelb							
Application rate :	600 l/ha	Spray pressure :	8,5 bar	Driving speed :	6,1 km/h							
Tracer :	Cu	Dosage :	0,3 %									
<b>Weather</b>												
Wind speed :	2,5 m/s	Wind direction :	15 ° deviation from main wind direction									
Temperature :	24,5 °C	rel. humidity :	43 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
9,28	7,23	6,06	4,89	2,83	1,86	1,28	0,51	0,39				
9,58	10,16	7,62	5,37	3,62	1,86	0,64	0,46	0,37				
10,65	8,79	6,06	4,30	2,74	1,47	0,64	0,40	0,33				
10,85	7,82	5,76	5,76	4,40	1,95	0,87	0,75	0,47				
11,43	6,35	5,67	4,20	2,44	1,47	0,78	0,64	0,32				
11,63	8,50	5,86	3,91	3,22	2,54	0,96	1,12	0,43				

<b>Trial</b>												
No. :	98	carried out by/trial ident.: HOECHST / 3			Date :	12.07.1990						
<b>Crop</b>												
Kind :	W	Growth stage :			31							
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	AS 310/TU 5	Nozzle :	ATP gelb							
Application rate :	600 l/ha	Spray pressure :	8,5 bar	Driving speed :	6,1 km/h							
Tracer :	Cu	Dosage :	0,3 %									
<b>Weather</b>												
Wind speed :	2,7 m/s		Wind direction :	9 ° deviation from main wind direction								
Temperature :	24,5 °C		rel. humidity :	43 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
9,12	8,63	5,49	3,33	2,84	1,57	1,05	0,43	0,34				
9,31	9,12	5,98	3,04	2,65	1,86	0,78	0,62	0,31				
9,80	9,51	5,88	4,02	1,96	0,95	0,27	0,25					
10,29	8,82	5,59	4,22	3,24	1,76	1,08	0,55	0,44				
10,39	11,08	7,55	3,92	3,73	2,06	1,18	0,37	0,22				
11,76	8,53	4,80	2,75	2,55	1,67	1,03	0,45	0,28				

<b>Trial</b>												
No. :	99	carried out by/trial ident.: HOECHST / 4			Date :	12.07.1990						
<b>Crop</b>												
Kind :	W	Growth stage :			31							
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	AS 310/TU 5	Nozzle :	ATP gelb							
Application rate :	600 l/ha	Spray pressure :	8,5 bar	Driving speed :	6,1 km/h							
Tracer :	Cu	Dosage :	0,3 %									
<b>Weather</b>												
Wind speed :	2,6 m/s		Wind direction :	15 ° deviation from main wind direction								
Temperature :	25 °C		rel. humidity :	44 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
8,49	5,92	3,85	2,57	2,07	1,58	0,93	0,57	0,22				
8,59	7,01	6,22	4,15	3,26	1,58	0,89	0,47	0,28				
9,87	7,80	5,13	4,94	3,55	1,48	0,99	0,42	0,28				
10,27	8,49	5,33	4,24	3,55	2,37	1,50	0,49	0,36				
10,27	8,59	6,02	4,94	4,15	2,07	1,28	0,44	0,30				
10,86	8,78	6,42	3,75	2,86	1,28	0,93	0,42	0,32				

<b>Trial</b>												
No. :	100	carried out by/trial ident.: HOECHST / 5			Date :	12.07.1990						
<b>Crop</b>												
Kind :	W	Growth stage :			31							
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment AS 310/TU 5			Nozzle :	ATP gelb						
Application rate :	600 l/ha	Spray pressure :	8,5 bar		Driving speed :	6,1 km/h						
Tracer :	Cu	Dosage :	0,3 %									
<b>Weather</b>												
Wind speed :	2,2 m/s		Wind direction :	28 ° deviation from main wind direction								
Temperature :	25 °C		rel. humidity :	44 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
5,24	8,25	4,76	3,59	2,14	1,55	1,21	0,51	0,17				
5,53	5,63	4,56	4,27	3,59	1,94	0,96	0,29	0,27				
6,02	5,14	4,27	3,98	2,91	1,55	1,05	0,22	0,12				
6,41	5,44	4,85	3,69	4,46	2,33	1,34	0,60	0,34				
7,67	7,18	5,44	6,41	3,30	1,16	0,61	0,21	0,10				
8,64	8,25	6,21	5,92	3,30	1,36	0,79	0,48	0,24				

<b>Trial</b>												
No. :	49	carried out by/trial ident.: BAYER / 1			Date :	03.08.1989						
<b>Crop</b>												
Kind :	W	Growth stage :			33							
<b>Equipment</b>												
Manufacturer :	Kroboth	Type of equipment			Axial	Nozzle :	Albus gelb					
Application rate :	600 l/ha	Spray pressure :	8 bar		Driving speed :	6 km/h						
Tracer :	Cu	Dosage :	0,5 %									
<b>Weather</b>												
Wind speed :	3,2 m/s		Wind direction :	0 ° deviation from main wind direction								
Temperature :	14 °C		rel. humidity :	83 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
3,86	2,22	1,86	1,41	1,06	1,02	0,62	0,30	0,20	0,00			
4,96	3,64	1,95	1,46	1,26	1,12	0,38	0,19	0,21	0,00			
5,14	2,89	1,79	1,32	1,43	1,11	0,80	0,22	0,16	0,00			
5,25	3,86	2,36	1,26	1,11	0,61	0,63	0,26	0,20	0,00			
5,38	2,60	1,77	1,35	1,40	0,85	0,69	0,29	0,25	0,00			
5,51	3,07	1,78	1,07	1,14	0,90	0,57	0,37	0,21	0,00			
5,54	3,52	3,13	1,11	1,03	0,52	0,52	0,23	0,21	0,00			
6,03	2,24	2,15	1,42	1,74	0,75	0,76	0,25	0,15	0,00			
6,31	4,33	3,03	1,68	1,25	1,12	0,54	0,27	0,14	0,00			
7,34	4,29	3,24	1,82	1,86	1,31	0,88	0,17	0,10				

<b>Trial</b>												
No. :	50	carried out by/trial ident.:		BAYER / II	Date :			03.08.1989				
<b>Crop</b>												
Kind :	W	Growth stage :			33							
<b>Equipment</b>												
Manufacturer :	Krobath	Type of equipment	Axial	Nozzle :	Albus gelb							
Application rate :	600 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h							
Tracer :	Cu	Dosage :	0,5 %									
<b>Weather</b>												
Wind speed :	3,4 m/s		Wind direction :	0 ° deviation from main wind direction								
Temperature :	15 °C		rel. humidity :	78 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
11,16	7,50	6,30	3,92	3,66	2,45	1,73	0,64	0,40	0,00			
12,00	6,72	5,39	4,22	4,68	2,08	1,24	0,24	0,16	0,00			
12,00	8,52	5,96	4,00	3,40	1,74	1,41	0,67	0,28	0,00			
12,42	7,74	6,66	4,97	2,33	1,33	0,60	0,34	0,35	0,00			
12,66	8,10	5,07	3,29	3,27	0,60	0,50	0,20	0,13	0,00			
13,86		6,12	4,17	2,65	1,96	1,51	0,55	0,21	0,00			
14,16	8,34	5,12	2,39	2,13	0,73	0,41	0,28	0,18	0,00			
17,33	9,36	7,14	5,65	5,35	2,96	2,20	1,12	0,41	0,00			
19,08	13,98	8,22	5,75	5,28	3,17	2,02	0,62	0,36	0,00			
23,94	13,44	9,36	5,82	5,22	2,45	1,21	0,55	0,36	0,00			

<b>Trial</b>												
No. :	51	carried out by/trial ident.:		BAYER / III	Date :			03.08.1989				
<b>Crop</b>												
Kind :	W	Growth stage :			33							
<b>Equipment</b>												
Manufacturer :	Krobath	Type of equipment	Axial	Nozzle :	Albus gelb							
Application rate :	600 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h							
Tracer :	Cu	Dosage :	0,5 %									
<b>Weather</b>												
Wind speed :	2,7 m/s		Wind direction :	0 ° deviation from main wind direction								
Temperature :	15 °C		rel. humidity :	75 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
9,66	5,04	3,69	2,66	2,76	1,55	0,70	0,37	0,17	0,00			
10,68	8,16	5,47	3,50	2,92	1,25	0,83	0,40	0,18	0,00			
11,76	7,38	5,64	3,87	3,47	2,72	1,74	0,57	0,11	0,00			
12,24	8,46	7,38	4,88	5,33	2,39	1,41	0,85	0,29	0,00			
12,36	12,36	6,48	5,85	5,29	1,76	1,05	0,48	0,29	0,00			
12,96	5,89	4,32	2,88	2,21	1,16	0,82	0,40	0,16	0,00			
16,44	8,34	5,88	3,59	2,44	2,02	1,65	0,85	0,16				
17,64	8,64	7,20	4,04	2,94	1,05	0,71	0,46	0,15	0,00			
19,20	5,77	5,00	3,61	3,22	1,84	1,42	0,98	0,41	0,00			
21,00	9,12	5,82	3,93	3,82	1,35	0,86	0,48	0,20	0,00			

<b>Trial</b>												
No. :	52	carried out by/trial ident.:			BAYER / IV	Date :	03.08.1989					
<b>Crop</b>												
Kind :	W	Growth stage :			33							
<b>Equipment</b>												
Manufacturer :	Kroboth	Type of equipment	Axial	Nozzle :	Albus gelb							
Application rate :	600 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h							
Tracer :	Cu	Dosage :	0,5 %									
<b>Weather</b>												
Wind speed :	2,8 m/s	Wind direction :	0 ° deviation from main wind direction									
Temperature :	16 °C	rel. humidity :	70 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
4,55	8,66	4,19	1,17	0,65	0,64	0,38	0,18	0,09	0,00			
6,41	4,87	3,63	3,09	2,44	1,27	0,49	0,16	0,18	0,00			
6,60	4,54	1,26	0,99	0,59	0,40	0,29	0,14	0,12	0,00			
6,66	3,69	2,12	0,97	0,61	0,42	0,25	0,18	0,11	0,00			
7,02	4,34	1,63	1,10	1,02	0,37	0,40	0,17	0,09	0,00			
7,11	4,73	1,85	1,60	1,18	0,50	0,30	0,18	0,11	0,00			
8,46	4,54	2,52	1,75	1,18	0,43	0,41	0,18	0,11	0,00			
8,66	6,31	3,88	1,93	1,66	0,67	0,60	0,33	0,12	0,00			
9,00	7,11	4,11	2,92	1,56	0,78		0,14	0,12	0,00			
14,82	7,65	3,50	2,23	1,25	0,83	0,34	0,17	0,09	0,00			

<b>Trial</b>												
No. :	53	carried out by/trial ident.:			BAYER / V	Date :	03.08.1989					
<b>Crop</b>												
Kind :	W	Growth stage :			33							
<b>Equipment</b>												
Manufacturer :	Kroboth	Type of equipment	Axial	Nozzle :	Albus gelb							
Application rate :	600 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h							
Tracer :	Cu	Dosage :	0,5 %									
<b>Weather</b>												
Wind speed :	2,9 m/s	Wind direction :	0 ° deviation from main wind direction									
Temperature :	19 °C	rel. humidity :	65 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
1,00	7,98	2,44	1,92	1,17	1,18	0,79	0,19	0,04	0,00			
1,00	6,89	5,34	4,67	2,43	1,34	0,79	0,63	0,27	0,00			
7,79	5,25	4,12	2,56	1,10	1,00	0,88	0,43	0,11	0,00			
8,36	9,52	3,58	1,94	1,45	0,78	0,60	0,45	0,25	0,00			
8,49	7,47	3,34	2,07	1,70	0,59	0,64	0,47	0,10	0,00			
9,96	10,15	4,60	2,36	1,54	1,19	0,97	0,33	0,22	0,00			
10,02	6,10	3,02	2,07	1,26	0,74	0,41	0,16	0,07	0,00			
10,28	8,75	3,41	2,11	1,93	0,71	0,50	0,33	0,06	0,00			
10,60	6,57	3,04	2,00	2,12	1,56	0,72	0,55	0,21	0,00			
10,98	6,38	4,76	1,99	1,07	1,05	0,88	0,25	0,19	0,00			

<b>Trial</b>												
No. :	54	carried out by/trial ident.:	BAYER / VI			Date :	03.08.1989					
<b>Crop</b>												
Kind :	W	Growth stage :	33									
<b>Equipment</b>												
Manufacturer :	Krobath	Type of equipment	Axial	Nozzle :	Albus gelb							
Application rate :	600 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h							
Tracer :	Cu	Dosage :	0,5 %									
<b>Weather</b>												
Wind speed :	3 m/s		Wind direction :	0 ° deviation from main wind direction								
Temperature :	19 °C		rel. humidity :	60 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
9,61	11,09 5,29	4,44 4,64	3,44 2,99	2,96 2,04	1,40 0,72	1,01 0,36	0,25 0,15	0,10 0,08	0,00 0,00			
10,71	7,35	5,15	3,24	2,18	1,48	1,11	0,40	0,17	0,00			
10,90	7,10	4,10	2,16	1,59	1,51	0,97	0,41	0,25	0,00			
11,09	7,74	5,06	3,64	2,77	1,29	0,85	0,30	0,09	0,00			
11,74	8,51	5,92	3,75	3,08	1,54	0,67	0,32	0,15	0,00			
12,38	8,39	5,22	2,48	1,74	1,12	0,76	0,35	0,12	0,00			
13,03	10,45	6,71	4,29	3,31	1,81	1,05	0,38	0,19	0,00			
13,61	8,90	4,22	3,96	1,81	0,70	0,41	0,13	0,07	0,00			
13,80	10,32	3,72	3,08	2,06	1,38	0,88	0,33	0,14	0,00			

## Annex C: Results of the drift trials in fruit crops

C - 1

<b>Trial</b>																	
No. :	225	carried out by/trial ident.:		BASF / DU 1	Date :		13.03.1991										
<b>Crop</b>																	
Kind :	<input checked="" type="radio"/>	Growth stage :		98/99													
<b>Equipment</b>																	
Manufacturer :		Platz	Type of equipment	AX 630	Nozzle :	Albus gelb											
Application rate :	300 l/ha		Spray pressure :	7 bar	Driving speed :	6,61 km/h											
Tracer :	Cu		Dosage :	0,1 %													
<b>Weather</b>																	
Wind speed :		1,5 m/s	Wind direction :	15 ° deviation from main wind direction													
Temperature :		16 °C	rel. humidity :	49 %													
<b>Measured deposited drift material in % relative to the application rate</b>																	
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m						
22,14	11,13	16,16	15,81	9,54	4,95	2,30	0,93	0,50	0,16	0,05	0,03						
26,20	15,50	10,62	10,78	8,87	3,66	2,36	0,82	0,32	0,13	0,05	0,03						
26,65	22,28	18,36	12,53	10,22	3,92	2,44	1,01	0,42	0,05	0,03	0,03						
27,76	18,44	13,11	12,53	8,50	4,19	1,70	0,61	0,13	0,03	0,03	0,03						
28,50	10,86	14,52	10,07	6,46	2,46	1,40	0,53	0,32	0,11	0,05	0,03						
28,77	14,20	17,67	12,08	6,86	4,34	2,20	0,40	0,11	0,03	0,03	0,26						
29,72	20,56	15,68	13,11	9,06	3,18	2,15	0,90	0,29	0,08	0,03	0,03						
33,27	21,72	14,65	10,33	7,26	2,97	1,93	0,56	0,24	0,08	0,03	0,03						
33,59	27,73	17,91	19,02	10,46	3,05	1,35	0,40	0,16	0,05	0,05	0,03						
39,73	8,98	12,50	11,47	9,85	6,20	3,02	0,58	0,26	0,05	0,03	0,03						

<b>Trial</b>																	
No. :	226	carried out by/trial ident.:		BASF / DU 2	Date :		13.03.1991										
<b>Crop</b>																	
Kind :	<input checked="" type="radio"/>	Growth stage :		98/99													
<b>Equipment</b>																	
Manufacturer :		Platz	Type of equipment	AX 630	Nozzle :	Albus gelb											
Application rate :	300 l/ha		Spray pressure :	7 bar	Driving speed :	6,61 km/h											
Tracer :	Cu		Dosage :	0,1 %													
<b>Weather</b>																	
Wind speed :		1,3 m/s	Wind direction :	11 ° deviation from main wind direction													
Temperature :		16 °C	rel. humidity :	49 %													
<b>Measured deposited drift material in % relative to the application rate</b>																	
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m						
20,31	11,10	9,46	9,41	7,03	2,73	1,64	0,62	0,37	0,30	0,07	0,02						
21,46	14,06	10,88	9,21	9,09	4,82	3,40	1,24	0,40	0,10	0,07	0,05						
23,74	18,18	9,78	9,31	7,33	3,15	2,96	0,84	0,45	0,12	0,05	0,02						
25,88	20,14	14,53	9,66	6,90	3,53	2,88	1,34	0,82	0,17	0,02	0,02						
26,67	22,80	11,00	8,49	7,52	1,71	0,92	0,45	0,25	0,10	0,32	0,02						
30,69	25,21	17,90	13,36	11,35	6,90	3,55	1,02	0,45	0,10	0,02	0,02						
31,64	21,73	16,74	16,66	14,85	6,43	5,07	2,23	0,45	0,17	0,02	0,02						
32,58	24,49	18,33	13,56	11,42	7,20	4,72	1,09	0,35	0,12	0,07	0,05						
33,28	21,58	14,28	8,22	4,54	2,23	1,37	0,55	0,27	0,15	0,07	0,05						
33,62	23,69	14,40	10,60	8,02	2,68	1,32	0,57	0,22	0,12	0,10	0,05						

<b>Trial</b>												
No. :	227	carried out by/trial ident.:		BASF / DU 3	Date :		13.03.1991					
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :		98/99								
<b>Equipment</b>												
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,61 km/h							
Tracer :	Cu	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	1,3 m/s		Wind direction :	-9 ° deviation from main wind direction								
Temperature :	17 °C		rel. humidity :	48 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
27,53	20,56	15,03	13,44	9,13	3,94	1,98	0,84	0,37	0,12	0,07	0,05	
28,67	23,21	9,60	8,13	7,32	3,52	2,45	0,84	0,27	0,05	0,02	0,02	
28,72	19,32	13,02	9,42	6,22	3,25	1,91	0,74	0,50	0,12	0,05	0,02	
29,01	16,29	11,70	8,60	5,28	2,16	1,54	0,67	0,25	0,07	0,02	0,02	
29,71	20,28	13,64	10,94	6,40	2,28	1,04	0,25	0,07	0,02	0,02	0,02	
29,96	24,10	16,22	12,32	7,61	4,17	1,56	0,42	0,17	0,02	0,02	0,02	
31,49	16,71	11,38	8,33	5,95	3,35	2,11	0,89	0,32	0,10	0,05	0,02	
34,22	20,61	16,07	10,66	6,22	2,01	1,81	0,55	0,25	0,07	0,02	0,02	
34,92	31,64	20,41	17,93	10,71	4,81	2,93	0,99	0,35	0,10	0,07	0,05	
36,70	29,16	16,24	11,11	8,31	3,65	2,06	0,69	0,15	0,12	0,07	0,05	

<b>Trial</b>												
No. :	228	carried out by/trial ident.:		BASF / DU 4	Date :		13.03.1991					
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :		98/99								
<b>Equipment</b>												
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,61 km/h							
Tracer :	Cu	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	1,1 m/s		Wind direction :	-21 ° deviation from main wind direction								
Temperature :	17 °C		rel. humidity :	44 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
19,60	22,70	13,50	12,90	11,20	6,00	2,70	0,70	0,30	0,10	0,00	0,00	
22,20	19,00	14,30	9,70	6,50	3,40	2,70	0,90	0,30	0,10	0,00	0,00	
22,80	19,50	15,70	11,70	7,60	3,80	2,90	1,10	0,30	0,10	0,00	0,00	
23,80	17,70	10,30	6,40	6,50	2,80	1,80	0,80	0,30	0,10	0,00	0,00	
24,40	19,40	16,70	14,10	9,30	5,00	3,20	0,80	0,30	0,10	0,00	0,00	
24,90	22,00	14,20	12,40	10,20	4,00	2,60	0,80	0,20	0,00	0,00	0,00	
26,30	23,90	18,40	21,70	15,90	4,40	2,50	0,70	0,30	0,10	0,20	0,00	
30,50	22,00	17,00	12,90	10,80	4,60	2,70	0,70	0,30	0,00	0,00	0,00	
35,00	31,10	16,20	12,10	9,30	6,30	3,20	0,90	0,40	0,10	0,00	0,00	
35,70	22,70	16,50	12,00	9,70	4,10	1,80	0,70	0,50	0,10	0,00	0,00	

<b>Trial</b>											
No. :	229	carried out by/trial ident.:		BASF / DU 5	Date :	13.03.1991					
<b>Crop</b>											
Kind :	O	Growth stage :		98/99							
<b>Equipment</b>											
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,61 km/h						
Tracer :	Cu	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	,7 m/s		Wind direction :	-30 ° deviation from main wind direction							
Temperature :	17 °C		rel. humidity :	45 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
9,80	4,00	2,10	1,90	1,00	0,50	0,30		0,10	0,10	0,00	0,00
10,10	4,60	2,40	1,80	0,90	0,60	0,30	0,20	0,10	0,10	0,00	0,00
10,40	6,60	3,90	2,40	1,60	0,70	0,30		0,10	0,10	0,00	0,00
10,60	3,80	2,70	1,90	1,50	0,60	0,30	0,20	0,10	0,00	0,00	0,00
11,30	9,70	6,00	2,90	1,30	0,50	0,30	0,20	0,10	0,00	0,00	0,00
11,90	4,90	2,00	1,50	1,00	0,60	0,40	0,20	0,60	0,00	0,00	0,00
14,80	8,20	5,50	3,00	3,20	0,70	0,40	0,20	0,10	0,00	0,00	0,00
18,30	8,30	5,60	3,40	2,10	0,70	0,40		0,20	0,10	0,00	0,00
20,40	12,20	4,00	1,80	1,10	0,40	0,30		0,10	0,10	0,00	0,10
23,60	9,80	3,90	2,40	1,60	0,80	0,40	0,20	0,10	0,10	0,00	0,00

<b>Trial</b>											
No. :	230	carried out by/trial ident.:		BASF / DU 1	Date :	13.03.1991					
<b>Crop</b>											
Kind :	O	Growth stage :		98/99							
<b>Equipment</b>											
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,61 km/h						
Tracer :	Cu	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	4 m/s		Wind direction :	-32 ° deviation from main wind direction							
Temperature :	9 °C		rel. humidity :	49 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
0,50	25,50	15,70	8,70	6,10	2,70	2,40	1,80	1,50	0,30	0,10	0,00
24,00	15,80	13,60	12,70	8,90	5,10	3,80	1,60	1,10	0,40	0,00	0,00
24,90	22,00	20,70	18,90	7,90	6,60	4,00	1,80	0,90	0,30	0,10	0,00
25,40	16,10	12,60	9,50	6,90	5,30	3,40	1,50	0,90	0,40	0,20	0,00
27,20	19,70	15,40	12,50	9,00	3,80	3,50	1,10	0,80	0,30	0,00	0,00
28,50	17,10	15,30	10,40	6,30	3,90	4,00	1,80	0,90	0,30	0,10	0,00
31,30	19,30	12,10	9,60	9,90	5,70	2,60	2,00	1,10	0,40	0,10	0,10
33,40	27,10	17,10	16,90	11,80	6,70	4,20	1,70	1,10	0,20	0,10	0,00
35,20	17,10	12,60	9,80	6,10	3,50	2,70	2,30	0,70	0,30	0,10	0,00
36,10	24,50	21,40	13,80	9,60	7,70	5,00	1,30	1,50	0,40	0,10	0,00

<b>Trial</b>												
No. :	231	carried out by/trial ident.:	BASF / DU 2			Date :	03.03.1992					
<b>Crop</b>												
Kind :	O	Growth stage :	98/99									
<b>Equipment</b>												
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,61 km/h							
Tracer :	Cu	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	5,3 m/s		Wind direction :	-33 ° deviation from main wind direction								
Temperature :	10 °C		rel. humidity :	42 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
14,10	10,40	7,80	8,30	8,20	5,40	3,60	1,50	0,90	0,50	0,20	0,00	
15,60	13,30	12,50	12,10	8,10	5,90	2,70	0,90	0,90	0,30	0,00	0,00	
20,80	19,80	13,60	8,80	8,30	4,90	3,10	1,40	0,70	0,30	0,20	0,10	
21,30	17,50	12,60	13,20	9,80	6,10	2,90	1,40	0,80	0,30	0,10	0,00	
23,30	13,80	12,70	8,50	7,70	3,80	3,30	1,30	1,20	0,40	0,10	0,00	
23,50	16,40	10,70	15,90	7,50	4,30	2,20	1,80	1,40	0,60	0,10	0,00	
24,80	20,90	14,80	13,00	7,70	4,00	4,20	2,60	1,30	0,10	0,00	0,00	
25,20	17,50	12,00	10,40	6,60	4,50	2,80	1,40	1,40	0,40	0,10	0,00	
28,90	16,30	16,10	11,10	6,50	5,00	3,80	1,90	1,10	0,30	0,20	0,00	
36,20	20,50	19,30	12,50	8,90	6,10	3,90	2,20	1,70	0,40	0,00	0,00	

<b>Trial</b>												
No. :	232	carried out by/trial ident.:	BASF / DU 3			Date :	03.03.1992					
<b>Crop</b>												
Kind :	O	Growth stage :	98/99									
<b>Equipment</b>												
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,61 km/h							
Tracer :	Cu	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	6,4 m/s		Wind direction :	-33 ° deviation from main wind direction								
Temperature :	11 °C		rel. humidity :	39 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
15,40	14,40	7,50	8,30	7,10	4,70	4,80	2,10	2,50	0,70	0,20	0,20	
16,20	13,20	14,80	11,40	6,70	4,30	4,10	2,00	2,30	0,80	0,20	0,20	
17,30	14,80	8,90	10,40	12,90	11,00	7,20	2,70	1,80	1,20	0,40	0,10	
19,00	13,10	11,50	12,20	7,80	6,50	5,30	3,40	0,90	0,80	0,30	0,10	
19,90	18,20	21,50	14,00	9,80	9,40	7,10	5,00	4,30	1,20	0,30	0,10	
21,20	19,40	16,90	17,90	11,30	6,90	6,20	4,50	2,70	0,60	0,40	0,20	
24,50	24,70	22,70	20,70	15,40	12,30	10,60	4,90	2,90	0,70	0,40	0,10	
25,80	25,50	17,10	14,50	14,70	8,80	7,00	4,20	1,40	0,80	0,30	0,20	
28,80	30,20	25,10	20,30	16,60	8,40	5,50	2,40	1,60	0,70	0,20	0,20	
33,00	27,80	16,90	17,40	9,00	7,80	6,30	2,80	2,50	1,80	0,30	0,10	

<b>Trial</b>												
No. :	233	carried out by/trial ident.:			BASF / DU 4	Date :			03.03.1992			
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :			98/99							
<b>Equipment</b>												
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,61 km/h							
Tracer :	Cu	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	5,6 m/s		Wind direction :	-32 ° deviation from main wind direction								
Temperature :	10 °C		rel. humidity :	41 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
19,70	17,60	15,90	16,20	11,00	7,00	3,90	2,70	1,70	0,20	0,10	0,00	
22,80	19,90	15,30	12,40	7,60	7,90	5,00	1,90	1,30	0,50	0,10	0,00	
27,80	24,50	17,70	14,00	9,00	7,40	6,60	2,60	1,30	0,70	0,00	0,10	
28,30	24,00	17,00	15,70	12,10	7,60	5,50	3,40	1,20	0,70	0,20	0,00	
28,30	32,40	21,90	15,30	14,00	8,10	5,50	3,10	1,80	0,60	0,20	0,00	
28,70	14,40	16,60	16,80	11,40	6,60	5,00	1,90	1,90	0,50	0,00	0,00	
31,40	24,10	28,90	20,20	15,40	7,10	2,40	6,20	2,20	0,90	0,20	0,10	
33,10	27,80	20,00	17,80	15,30	8,40	4,80	2,50	1,40	0,50	0,10	0,00	
33,80	28,30	13,70	13,40	10,50	6,60	4,20	2,70	2,30	0,70	0,30	0,10	
35,20	33,50	20,40	17,50	12,40	6,70	4,60	2,30	1,20	0,10	0,00	0,20	

<b>Trial</b>												
No. :	234	carried out by/trial ident.:			BASF / DU 5	Date :			03.03.1992			
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :			98/99							
<b>Equipment</b>												
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,61 km/h							
Tracer :	Cu	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	5,5 m/s		Wind direction :	-25 ° deviation from main wind direction								
Temperature :	10 °C		rel. humidity :	39 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
18,20	17,40	14,30	12,90	9,30	4,40	3,70	1,70	1,40	0,50	0,10	0,10	
21,30	22,30	22,60	21,60	11,80	7,50	5,40	2,90	1,70	0,50	0,20	0,10	
21,90	19,80	16,10	16,40	8,10	4,30	3,20	2,70	2,20	0,60	0,20	0,10	
26,00	21,40	13,70	11,30	7,70	7,40	5,60	1,80	1,70	0,50	0,30	0,20	
27,70	18,10	15,70	12,10	6,60	7,20	5,70	2,30	1,60	0,60	0,10	0,10	
27,80	12,50	11,50	11,20	10,10	5,20	4,10	3,00	1,40	0,60	0,10	0,10	
28,40	28,00	25,10	19,40	14,10	8,10	3,60	1,70	2,00	0,60	0,30	0,10	
29,90	25,90	20,40	14,70	10,60	7,90	5,90	1,60	0,70	0,50	0,20	0,10	
33,50	28,10	20,70	13,60	7,20	5,20	4,20	2,00	0,90	0,50	0,10	0,20	
37,10	27,60	9,40	14,40	7,70	5,60	4,50	2,00	1,20	0,40	0,30	0,20	

<b>Trial</b>											
No. :	235	carried out by/trial ident.:		BASF / DU 1	Date :	11.03.1992					
<b>Crop</b>											
Kind :	<input checked="" type="radio"/>	Growth stage :		98/99							
<b>Equipment</b>											
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,26 km/h						
Tracer :	Cu	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	4,5 m/s		Wind direction :	-7 ° deviation from main wind direction							
Temperature :	7 °C		rel. humidity :	48 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
8,40	23,00	11,60	15,10	13,40	9,90	6,00	2,10	1,20	0,50	0,20	0,10
13,90	22,10	8,80	12,70	13,30	8,80	6,80	3,90	2,80	1,30	0,50	0,20
15,50	15,60	8,00	14,30	16,90	11,30	6,90	3,40	2,10	1,20	0,40	0,10
22,90	23,60	8,90	15,60	13,10	12,10	7,80	3,90	2,60	1,10	0,50	0,20
23,60	28,90	10,10	13,80	11,00	6,90	5,40	2,70	2,50	0,80	0,30	0,20
26,60	16,40	6,50	9,90	8,10	5,80	3,20	1,60	1,30	0,80	0,50	0,20
27,00	24,00	8,30	13,20	8,90	4,30	4,20	2,20	1,40	0,60	0,30	0,20
34,80	28,80	11,50	19,50	15,70	11,70	7,50	2,70	1,20	0,70	0,20	0,10
36,00	32,50	13,90	21,90	16,40	8,30	4,60	2,70	1,60	0,70	0,10	0,10
42,80	31,90	10,20	13,60	11,80	7,00	4,80	2,60	2,20	0,80	0,30	0,10

<b>Trial</b>											
No. :	236	carried out by/trial ident.:		BASF / DU 2	Date :	11.03.1992					
<b>Crop</b>											
Kind :	<input checked="" type="radio"/>	Growth stage :		98/99							
<b>Equipment</b>											
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,26 km/h						
Tracer :	Cu	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	3,8 m/s		Wind direction :	-22 ° deviation from main wind direction							
Temperature :	9 °C		rel. humidity :	39 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
11,30	15,30	12,70	12,60	9,90	5,80	3,00	1,10	0,60	0,70	0,20	0,10
16,50	15,80	13,10	12,60	10,50	6,80	4,10	1,60	0,70	0,80	0,20	0,00
17,80	16,70	15,30	12,10	9,20	10,70	7,40	3,80	2,50	2,50	0,50	0,10
22,50	19,70	18,50	13,70	11,10	8,00	4,90	2,40	1,00	0,70	0,10	0,10
27,80	26,20	15,20	14,30	7,80	4,20	3,50	1,50	0,70	0,90	0,10	0,10
28,60	21,00	13,00	7,20	6,40	5,20	3,60	2,70	1,70	1,30	0,10	0,00
29,60	32,90	15,10	11,00	12,60	9,30	5,90	1,90	1,70	1,60	0,30	0,10
31,10	28,30	18,50	16,00	11,60	10,00	5,90	3,20	2,70	2,30	0,40	0,10
31,30	28,10	23,90	17,10	14,10	9,50	6,60	5,40	2,50	2,00	0,40	0,10
35,60	27,30	19,40	13,80	10,80	6,20	3,00	2,30	1,60	1,80	0,40	0,00

<b>Trial</b>												
No. :	237	carried out by/trial ident.:		BASF / DU 3	Date :		11.03.1992					
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :		98/99								
<b>Equipment</b>												
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,26 km/h							
Tracer :	Cu	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	3,5 m/s		Wind direction :	2 ° deviation from main wind direction								
Temperature :	8 °C		rel. humidity :	36 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
16,80	23,40	16,00	14,70	13,00	7,30	4,70	1,90	1,30	0,70	0,30	0,10	
19,30	16,50	12,00	11,10	8,70	8,80	5,30	2,40	1,80	0,60	0,20	0,10	
21,10	16,90	11,60	12,60	8,70	7,60	4,20	2,40	1,50	0,70	0,20	0,10	
23,80	15,00	13,30	7,60	6,10	6,60	4,00	1,80	1,10	0,50	0,20	0,10	
26,80	20,40	17,10	13,80	11,50	8,20	4,90	2,70	1,60	0,40	0,20	0,10	
28,90	32,20	25,10	26,40	15,80	8,30	6,10	3,10	2,20	0,60	0,20	0,20	
29,70	25,40	14,40	11,20	6,40	4,30	3,60	3,10	2,20	0,70	0,30	0,10	
30,20	25,70	23,30	19,80	12,90	7,10	4,60	2,40	1,30	0,70	0,20	0,10	
34,10	29,00	18,60	13,60	12,80	6,40	4,80	2,40	1,00	0,40	0,10	0,10	
45,80	28,60	19,90	16,60	13,80	9,60	8,30	3,20	1,40	0,40	0,20	0,10	

<b>Trial</b>												
No. :	238	carried out by/trial ident.:		BASF / DU 4	Date :		11.03.1992					
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :		98/99								
<b>Equipment</b>												
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,26 km/h							
Tracer :	Cu	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	3,2 m/s		Wind direction :	0 ° deviation from main wind direction								
Temperature :	8 °C		rel. humidity :	44 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
16,70	17,60	7,80	6,30	5,50	5,70	3,30	2,10	0,90	0,10	0,00	0,00	
16,90	10,90	7,70	7,50	8,20	7,00	3,50	1,40	1,10	0,60	0,20	0,10	
20,70	5,90	12,10	12,60	8,00	6,20	3,10	1,20	0,70	0,40	0,10	0,10	
25,10	16,30	13,10	10,20	7,10	5,40	3,80	2,00	1,30	0,30	0,10	0,10	
25,50	15,00	15,10	13,70	10,10	4,60	2,30	1,00	0,80	0,70	0,10	0,10	
26,80	13,90	12,20	7,00	6,80	4,80	3,90	1,30	0,60	0,20	0,10	0,10	
27,10	15,30	15,00	13,40	10,60	7,70	5,40	3,30	1,70	0,60	0,10	0,10	
35,70	22,30	21,50	19,30	13,20	9,10	5,20	2,30	1,50	0,50	0,10	0,10	
39,50	29,50	25,80	17,60	13,50	6,50	5,60	2,40	0,90	0,20	0,00	0,00	
49,30	44,10	29,10	23,20	20,90	7,50	4,90	1,90	1,40	0,30	0,10	0,00	

<b>Trial</b>												
No. :	239	carried out by/trial ident.:	BASF / DU 5			Date :	11.03.1992					
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :	98/99									
<b>Equipment</b>												
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,26 km/h							
Tracer :	Cu	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	2,9 m/s		Wind direction :	-2 ° deviation from main wind direction								
Temperature :	8 °C		rel. humidity :	42 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
13,30	11,00	12,00	6,90	6,70	6,40	4,10	2,00	0,70	0,30	0,10	0,10	
16,80	12,50	7,70	8,30	6,70	3,30	2,40	1,40	1,20	0,50	0,10	0,10	
18,20	11,60	8,40	9,10	8,00	5,60	3,60	1,90	1,30	0,60	0,30	0,10	
21,60	18,50	13,00	10,70	10,40	5,10	2,50	1,00	0,70	0,40	0,10	0,10	
22,00	19,60	12,60	9,30	7,50	5,30	3,00	1,50	1,10	0,50	0,30	0,10	
26,10	14,90	11,20	8,50	6,70	5,00	2,20	0,90	0,60	0,50	0,20	0,10	
30,70	17,70	11,30	10,30	8,20	6,00	3,30	2,10	1,10	0,20	0,00	0,10	
31,10	27,50	19,00	10,20	7,30	5,70	3,10	1,40	0,70	0,30	0,10	0,10	
31,50	16,50	8,90	6,50	5,30	5,90	4,30	2,90	2,50	0,60	0,20	0,00	
34,30	20,50	12,70	12,30	9,60	5,00	3,00	2,50	1,50	0,60	0,20	0,10	

<b>Trial</b>												
No. :	191	carried out by/trial ident.:	BAYER / 1			Date :	21.03.1990					
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :	21/22									
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	TU 60	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	9 bar	Driving speed :	5,7 km/h							
Tracer :	Cu	Dosage :	1kg/ha									
<b>Weather</b>												
Wind speed :	3,4 m/s		Wind direction :	10 ° deviation from main wind direction								
Temperature :	14 °C		rel. humidity :	80 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
12,80	10,60	10,80	10,10	10,60	8,50	6,90	3,90	3,00	1,10			
13,50	13,10	17,40	15,10	13,30	11,90	8,70	4,60	2,80	0,80			
13,50	17,00	17,90	14,90	16,00	10,40	6,20	4,20	1,90	0,60			
14,40	15,10	15,10	15,10	11,30	12,00	9,00	3,90	1,90	0,60			
16,50	13,50		10,80	11,20	7,60	6,00	3,30	2,30	0,90			
18,30	16,90	14,90	11,00	10,30	7,40	6,50	2,40	2,10	1,20			
19,30	19,50	18,60	15,60	12,40	12,60	8,10	2,80	1,70	1,10			
19,90	23,60	22,00	17,60	16,10	11,70	7,20	3,00	2,30	1,10			
20,20	18,30	19,20	14,90	10,40	10,10	6,00	2,80	2,40	1,50			
21,50	20,40	15,40	17,20	17,60	11,20	7,20	2,40	2,30	1,00			

<b>Trial</b>											
No. :	192	carried out by/trial ident.:			BAYER / 2	Date :			21.03.1990		
<b>Crop</b>											
Kind :	O	Growth stage :			21/22						
<b>Equipment</b>											
Manufacturer :	Holder	Type of equipment	TU 60	Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	9 bar	Driving speed :	5,7 km/h						
Tracer :	Cu	Dosage :	1kg/ha								
<b>Weather</b>											
Wind speed :	3 m/s	Wind direction :	12 ° deviation from main wind direction								
Temperature :	15 °C	rel. humidity :	75 %								
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
13,60	13,40	12,70	13,20	11,20	9,80	8,70	4,50	3,20	1,40		
13,60	15,60	10,10	8,50	10,90	7,80	6,90	4,70	3,40	1,40		
14,70	16,70	14,50	11,00	7,80	7,00	6,30	3,40	2,00	1,80		
15,80	15,40	14,00	10,50	8,50	8,90	6,00	3,60	2,70	1,30		
16,30	16,50	16,90	13,60	10,00	7,60	5,20	2,70	1,80	1,60		
17,20	18,90	16,30	13,00	10,90	10,70	6,10	2,50	1,50	1,60		
17,80	22,10	15,40	12,30	8,90	9,20	8,90	2,70	2,10	0,90		
24,50	17,20	21,00	17,80	17,20	12,10	8,30	2,10	1,80	1,50		
27,00	25,20	21,40	13,40	12,70	9,20	6,70	2,90	2,00	0,80		
29,00	19,20	19,00	22,70	14,50	12,10	11,80	3,20	2,10	1,30		

<b>Trial</b>											
No. :	193	carried out by/trial ident.:			BAYER / 3	Date :			21.03.1990		
<b>Crop</b>											
Kind :	O	Growth stage :			21/22						
<b>Equipment</b>											
Manufacturer :	Holder	Type of equipment	TU 60	Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	9 bar	Driving speed :	5,7 km/h						
Tracer :	Cu	Dosage :	1kg/ha								
<b>Weather</b>											
Wind speed :	3,6 m/s	Wind direction :	6 ° deviation from main wind direction								
Temperature :	15 °C	rel. humidity :	74 %								
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
14,70	12,70	12,00	13,60	12,30	10,50	6,90	3,20	1,60	0,70		
17,10	16,50	17,40	14,90	11,20	8,00	9,10	2,70	1,60	0,50		
17,20	21,80	16,50	12,00	11,40	8,90	8,10	3,00	1,20	0,60		
19,60	14,90	10,00	11,80	10,50	8,70	6,90	3,00	1,80	0,60		
20,20	24,00	17,80	11,20	9,40	9,80	7,40	4,30	2,00	0,60		
21,30	18,90	23,80	18,50	13,80	10,30	8,70	6,50	3,20	1,00		
22,70	22,90	24,90	21,40	19,30	18,20	16,30	4,70	3,20	1,00		
28,40	29,40	21,40	14,00	11,10	8,70	8,30	4,70	2,30	0,70		
28,50	29,80	22,50	18,50	14,30	13,10	10,90	6,90	4,00	1,00		
28,70	31,80	31,80	25,40	23,40	16,50	14,20	6,00	3,80	1,00		

<b>Trial</b>												
No. :	194	carried out by/trial ident.:		BAYER / 4	Date :		21.03.1990					
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :		21/22								
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	TU 60	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	9 bar	Driving speed :	5,7 km/h							
Tracer :	Cu	Dosage :	1kg/ha									
<b>Weather</b>												
Wind speed :	3,3 m/s		Wind direction :	6 ° deviation from main wind direction								
Temperature :	15 °C		rel. humidity :	74 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
14,50	14,10	12,80	14,30	11,90	10,80	8,50	2,70	0,40	1,40			
14,60	14,30	12,30	11,00	11,40	12,60	8,10	2,70	2,30	1,30			
15,00	15,20	13,70	9,60	7,60	5,90	5,00	2,30	2,50	1,20			
15,20	13,60	11,90	12,80	9,60	4,50	3,90	3,90	1,60	1,30			
15,60	19,50	14,50	10,30	9,40	10,30	10,80	2,30	1,70	0,40			
15,70	19,20	16,60	15,20	13,60	10,80	7,40	3,20	2,10	1,80			
17,50	16,30	18,30	14,50	10,10	8,70	6,10	2,90	1,90	1,60			
20,30	19,00	14,80	9,60	6,80	6,30	8,70	3,00	2,10	0,60			
20,40	20,80	15,20	11,40	9,70	5,20	4,10	2,90	2,70	0,80			
21,00	22,40	18,10	11,40	9,00	7,20	5,40	2,50	2,70	1,70			

<b>Trial</b>												
No. :	195	carried out by/trial ident.:		BAYER / 5	Date :		21.03.1990					
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :		21/22								
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	TU 60	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	9 bar	Driving speed :	5,7 km/h							
Tracer :	Cu	Dosage :	1kg/ha									
<b>Weather</b>												
Wind speed :	3,2 m/s		Wind direction :	15 ° deviation from main wind direction								
Temperature :	15 °C		rel. humidity :	77 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
15,40	17,30	19,30	19,10	16,80	15,20	11,10	5,30	4,10	1,00			
16,60	16,30	15,90	10,00	8,70	11,60	9,10	5,70	4,30	1,40			
16,80	18,80	12,30	15,20	15,00	11,60	10,70	6,00	5,00	1,70			
18,60	22,70	23,80	23,30	17,90	12,70	11,10	4,60	3,50	0,70			
18,60	23,40	19,30	15,70	10,50	10,90	7,70	6,60	5,20	2,50			
19,50	21,10	18,80	12,30	12,50	9,30	9,10	5,90	4,40	1,70			
22,70	24,90	25,80	17,50	14,10	9,80	10,70	7,70	4,60	3,50			
23,60	24,90	19,70	15,40	12,50	11,80	9,30	6,20	5,00	3,40			
24,00	19,90	17,70	15,60	13,90	12,10	8,70	5,00	4,10	3,70			
26,80	31,00	26,10	18,20	15,20	13,40	8,00	5,20	3,00	0,60			

**Trial**

No. : 196 carried out by/trial ident.: BAYER / 1 Date : 31.03.1991

**Crop**

Kind :  Growth stage : 21/22

**Equipment**

Manufacturer :	Holder	Type of equipment	TU 60	Nozzle :	Albuz gelb
Application rate :	300 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h
Tracer :	Cu	Dosage :	1kg/ha		

**Weather**

Wind speed : 3,2 m/s Wind direction : 2 ° deviation from main wind direction  
 Temperature : 3 °C rel. humidity : 85 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
20,80	21,30	21,30	12,60	11,90	7,70	4,90	3,90	2,50	1,50		
27,10	26,70	17,70	15,30	10,00	9,40	5,00	2,90	1,90	1,60		
28,40	24,50	21,10	14,60	14,30	13,90	10,60	4,10	3,20	1,50		
32,40	27,40	23,40	16,50	10,30	7,10	4,00	1,70	1,10	1,50		
35,30	30,80	23,70	18,60	16,60	17,60	8,90	5,80	2,50	1,00		
37,10	29,00	25,30	22,20	18,50	13,60	9,60	5,40	1,90	1,60		
38,50	21,10	21,00	18,30	14,20	7,50	5,20	2,70	1,20	1,20		
44,70	31,60	23,40	22,20	18,20	14,20	8,80	4,50	2,70	1,00		
45,00	41,30	33,40	22,00	19,00	10,80	7,30	3,40	3,00	1,30		
46,20	30,80	18,80	20,30	16,30	11,10	7,50	3,90	1,40	1,20		

**Trial**

No. : 197 carried out by/trial ident.: BAYER / 2 Date : 31.03.1991

**Crop**

Kind :  Growth stage : 21/22

**Equipment**

Manufacturer :	Holder	Type of equipment	TU 60	Nozzle :	Albuz gelb
Application rate :	300 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h
Tracer :	Cu	Dosage :	1kg/ha		

**Weather**

Wind speed : 3 m/s Wind direction : -1 ° deviation from main wind direction  
 Temperature : 4 °C rel. humidity : 81 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
24,80	18,30	20,60	20,10	12,10	7,90	4,60	6,10	4,20	1,90		
26,00	18,30	17,90	13,00	11,00	7,00	5,20	7,10	3,80	1,70		
26,60	26,00	26,30	16,60	13,00	10,80	8,90	5,30	4,10	3,50		
29,10	21,50	19,20	15,00	10,80	8,30	5,20	6,20	3,80	2,60		
30,20	19,80	19,00	14,40	14,50	12,60	10,10	1,60	2,40	0,90		
32,30	31,40	27,80	23,70	21,70	12,50	10,30	3,50	2,60	2,30		
32,60	24,30	15,30	15,20	9,70	4,60	5,80	5,50	4,50	2,90		
34,70	24,80	20,70	15,20	13,00	10,50	7,30	5,80	3,70	2,50		
36,70	31,30	22,10	19,00	13,00	9,60	6,20	2,40	2,20	1,00		
38,40	42,40	35,60	22,30	18,60	13,00	10,10	2,90	2,40	1,30		

<b>Trial</b>												
No. :	198	carried out by/trial ident.:		BAYER / 3	Date :		31.03.1991					
<b>Crop</b>												
Kind :	O	Growth stage :		21/22								
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	TU 60	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h							
Tracer :	Cu	Dosage :	1kg/ha									
<b>Weather</b>												
Wind speed :	3,1 m/s		Wind direction :	-28 ° deviation from main wind direction								
Temperature :	3 °C		rel. humidity :	90 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
33,60	27,00	23,90	24,00	17,60	13,60	9,00	6,00	1,90	1,00			
35,80	26,40	25,40	18,50	17,30	10,80	9,80	5,00	4,40	1,80			
38,60	30,60	26,20	20,90	13,70	13,00	9,60	5,40	3,60	1,40			
39,40	25,00	22,30	22,00	16,00	13,30	7,80	3,30	2,10	1,30			
39,70	26,50	25,70	20,40	16,60	8,60	7,40	4,50	2,60	1,60			
41,00	25,00	23,10	18,50	15,20	11,70	8,30	4,50	2,90	1,60			
43,20	27,30	21,70	20,40	17,40	10,00	8,60	5,90	3,10	1,40			
43,90	25,30	25,40	21,00	16,80	10,00	6,40	2,40	2,70	1,30			
47,70	44,70	34,80	21,70	18,20	13,10	7,80	5,20	3,00	1,20			
50,40	36,10	36,10	26,00	18,80	15,60	9,30	4,70	2,90	1,50			

<b>Trial</b>												
No. :	199	carried out by/trial ident.:		BAYER / 4	Date :		31.03.1991					
<b>Crop</b>												
Kind :	O	Growth stage :		21/22								
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	TU 60	Nozzle :	Albuz gelb							
Application rate :	300 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h							
Tracer :	Cu	Dosage :	1kg/ha									
<b>Weather</b>												
Wind speed :	3 m/s		Wind direction :	-30 ° deviation from main wind direction								
Temperature :	4 °C		rel. humidity :	90 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
27,60	26,90	22,30	16,00	15,40	12,40	9,60	6,70	3,50	1,80			
31,70	25,50	21,70	20,60	16,60	11,40	5,40	3,20	2,30	1,40			
32,00	27,60	22,40	19,40	17,90	15,10	9,50	4,30	2,10	1,30			
34,10	24,70	20,90	18,80	18,80	10,80	8,40	2,80	2,50	1,60			
34,10	28,40	21,80	23,60	19,10	10,30	5,40	3,90	3,10	1,60			
34,70	28,40	20,60	15,70	13,30	12,30	9,30	6,30	2,80	1,10			
37,40	30,60	27,30	19,40	14,90	10,30	11,00	5,20	3,80	1,50			
37,90	30,30	26,90	15,20	15,70	7,20	4,20	3,80	3,70	1,40			
39,60	27,60	18,50	17,80	15,80	10,00	7,70	2,30	1,60	1,60			
39,70	33,60	22,30	18,10	12,70	7,90	9,60	5,30	3,30	1,40			

<b>Trial</b>											
No. :	200	carried out by/trial ident.:			BAYER / 5	Date :			31.03.1991		
<b>Crop</b>											
Kind :	<input type="radio"/>	Growth stage :			21/22						
<b>Equipment</b>											
Manufacturer :	Holder	Type of equipment	TU 60	Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h						
Tracer :	Cu	Dosage :	1kg/ha								
<b>Weather</b>											
Wind speed :	2,3 m/s		Wind direction :	-15 ° deviation from main wind direction							
Temperature :	5 °C		rel. humidity :	89 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
31,90	23,10	14,80	12,20	11,20	9,60	5,00	2,60	1,10	0,90		
33,90	25,10	22,80	16,20	15,40	9,90	7,00	5,10	2,80	1,50		
35,10	29,10	18,50	14,20	12,60	8,00	4,00	2,50	1,40	0,70		
38,20	27,30	22,30	19,70	17,60	12,80	8,30	5,00	2,00	0,90		
39,10	24,70	21,40	14,00	14,00	9,70	7,20	4,40	2,60	1,40		
41,10	31,70	22,00	13,60	13,60	9,60	6,60	2,90	1,30	1,00		
41,60	35,40	29,30	24,30	17,40	9,10	7,10	2,80	1,60	1,00		
46,20	26,00	22,80	19,70	15,40	10,00	7,20	3,70	1,80	1,10		
47,80	32,00	26,00	18,20	17,30	9,70	6,40	1,40	2,10	1,10		
49,30	31,90	26,20	23,10	19,70	11,20	6,70	3,00	1,50	1,00		

<b>Trial</b>											
No. :	201	carried out by/trial ident.:			BAYER / 6	Date :			31.03.1991		
<b>Crop</b>											
Kind :	<input checked="" type="radio"/>	Growth stage :			21/22						
<b>Equipment</b>											
Manufacturer :	Holder	Type of equipment	TU 60	Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h						
Tracer :	Cu	Dosage :	1kg/ha								
<b>Weather</b>											
Wind speed :	2,6 m/s		Wind direction :	-17 ° deviation from main wind direction							
Temperature :	6 °C		rel. humidity :	88 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
26,60	20,20	14,00	18,70	12,50	9,70	6,80	5,20	2,20	1,60		
29,60	22,00	17,60	13,90	11,50	9,00	6,70	3,10	3,40	1,70		
32,10	21,80	19,90	16,30	14,50	12,40	8,40	6,90	2,90	2,00		
32,70	29,30	27,60	22,40	19,40	14,80	10,60	6,80	4,00	2,60		
34,10	26,70	16,90	14,90	13,60	11,70	6,00	3,30	2,80	1,00		
35,90	29,90	28,80	26,00	23,20	15,50	8,30	6,30	4,00	1,50		
38,80	29,60	22,40	21,10	14,50	9,70	6,90	6,00	2,60	1,60		
40,90	26,70	18,70	14,50	13,10	12,30	9,90	4,20	2,50	1,20		
41,70	29,60	25,80	21,70	17,20	11,80	10,40	4,10	4,90	1,80		
44,10	25,40	23,90	20,00	14,60	13,30	7,50	3,50	2,30	1,70		

<b>Trial</b>												
No. :	202	carried out by/trial ident.:			BAYER / A	Date :			18.01.1992			
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :			98/99							
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment			TU 60	Nozzle :			Albuz gelb			
Application rate :	300 l/ha	Spray pressure :			3 bar	Driving speed :			6 km/h			
Tracer :	Cu	Dosage :			0,3 %							
<b>Weather</b>												
Wind speed :	2,5 m/s	Wind direction :			-14 ° deviation from main wind direction							
Temperature :	2 °C	rel. humidity :			83 %							
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
27,80	31,40	31,70	19,60	16,90	14,00	8,60	3,20	3,10	0,90			
28,90	22,40	15,50	11,70	13,10	11,50	6,90	4,20	2,60	0,90			
34,70	18,00	19,60	16,10	14,60	10,00	10,00	3,70	2,50	0,90			
36,10	28,40	27,30	20,80	15,20	6,10	7,60		2,80	0,90			
37,00	29,20	28,50	22,80	18,20	9,60	6,40	3,00	2,30	0,90			
38,00	29,50	24,30	25,70	21,30	13,10	6,80	3,50	2,70	1,00			
40,20	39,40	27,60	22,30	20,80	14,30	8,40	3,50	2,40	1,00			
42,60	32,00	31,20	26,50	20,40	15,80	11,60	6,30	4,00	1,30			
48,20	36,80	30,50	32,80	26,70	17,50	12,60	3,60	3,30	1,20			
51,00	32,60	25,90	27,00	23,70	11,60	6,90	3,10	2,80	1,00			

<b>Trial</b>												
No. :	203	carried out by/trial ident.:			BAYER / B	Date :			18.01.1992			
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :			98/99							
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment			TU 60	Nozzle :			Albuz gelb			
Application rate :	300 l/ha	Spray pressure :			3 bar	Driving speed :			6 km/h			
Tracer :	Cu	Dosage :			0,3 %							
<b>Weather</b>												
Wind speed :	2,5 m/s	Wind direction :			-18 ° deviation from main wind direction							
Temperature :	3 °C	rel. humidity :			84 %							
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
25,70	20,00	22,20	17,40	18,10	11,70	6,60	2,50	2,10	1,00			
28,00	20,00	20,50	22,90	17,10	11,00	7,00	2,50	2,20	1,20			
30,10	21,20	21,10	16,70	13,60	10,20	6,40	3,30	2,10	1,10			
31,20	20,40	18,70	17,00	17,00	10,90	9,00	4,20	3,20	1,50			
35,40	25,70	21,10	18,20	13,40	11,50	9,00	3,90	3,50	1,70			
36,30	21,20	24,60	24,20	18,30	11,70	6,10	2,30	1,90	0,90			
36,30	28,00	29,70	29,60	23,30	13,80	9,30	3,80	4,20	2,00			
36,40	28,10	23,80	18,70	13,80	8,70	5,60	2,40	2,10	1,00			
44,40	28,10	19,60	14,70	12,60	9,40	5,30	3,90	2,30	1,20			
47,50	38,60	32,40	30,90	22,30	9,90	7,80	3,50	3,30	1,80			

<b>Trial</b>												
No. :	204	carried out by/trial ident.:			BAYER / C	Date :			18.01.1992			
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :			98/99							
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment			TU 60	Nozzle :			Albuz gelb			
Application rate :	300 l/ha	Spray pressure :			3 bar	Driving speed :			6 km/h			
Tracer :	Cu	Dosage :			0,3 %							
<b>Weather</b>												
Wind speed :	2,1 m/s	Wind direction :			-7 ° deviation from main wind direction							
Temperature :	3 °C	rel. humidity :			86 %							
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
29,30	23,00	22,60	20,10	12,00	6,80	6,40	3,40	2,10	0,80			
36,40	26,40	32,80	18,20	19,60	13,40	7,30	2,90	1,90	0,80			
38,20	28,70	25,90	22,00	18,30	9,60	5,00	2,10	2,00	1,10			
39,60	36,40	22,30	14,30	13,20	9,40	6,20	2,70	2,30	1,00			
39,90	28,30	19,80	16,60	10,20	6,60	4,10	2,60	1,90	0,70			
40,20	22,90	20,00	17,20	13,60	9,90	7,20	2,80	1,90	0,80			
40,30	28,00	21,20	16,30	13,60	8,10	6,50	2,70	2,10	0,80			
40,80	24,40	24,90	14,30	11,50	6,50	4,50	2,10	1,60	0,70			
42,70	20,70	16,30	13,10	10,60	7,20	5,80	2,70	2,00	0,90			
43,80	36,00	29,40	20,40	18,50	9,60	5,40	2,70	1,70	0,60			

<b>Trial</b>												
No. :	205	carried out by/trial ident.:			BAYER / D	Date :			18.01.1992			
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :			98/99							
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment			TU 60	Nozzle :			Albuz gelb			
Application rate :	300 l/ha	Spray pressure :			3 bar	Driving speed :			6 km/h			
Tracer :	Cu	Dosage :			0,3 %							
<b>Weather</b>												
Wind speed :	2,6 m/s	Wind direction :			-2 ° deviation from main wind direction							
Temperature :	3 °C	rel. humidity :			85 %							
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
27,80	28,20	32,50	20,10	13,00	9,60	5,30	2,50	2,00	0,60			
28,40	26,90	28,70	28,30	18,80	14,80	10,60	2,20	2,30	0,70			
29,60	35,70	31,60	24,80	28,90	17,10	12,60	2,20	2,70	0,90			
32,00	30,00	24,70	17,90	15,00	9,80	6,70	2,80	1,70	0,60			
32,60	32,80	25,70	23,20	17,20	11,00	6,50	2,10	1,80	0,70			
35,50	22,10	22,60	16,50	9,10	9,90	7,10	2,80	1,40	0,40			
36,50	26,70	22,30	22,30	17,50	7,30	4,10	4,30	1,60	0,80			
41,80	24,40	20,40	11,20	11,00	10,30	8,10	3,40	1,60	0,70			
45,40	17,40	16,80	10,60	12,30	15,00	5,60	3,30	1,40	0,70			
45,70	21,10	20,00	16,30	23,10	9,10	5,80	3,50	1,50	0,80			

<b>Trial</b>												
No. :	206	carried out by/trial ident.:			BAYER / E			Date :		18.01.1992		
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :			98/99							
<b>Equipment</b>												
Manufacturer :		Holder	Type of equipment	TU 60		Nozzle :	Albuz gelb					
Application rate :	300 l/ha		Spray pressure :	3 bar		Driving speed :	6 km/h					
Tracer :	Cu		Dosage :	0,3 %								
<b>Weather</b>												
Wind speed :	2,2 m/s	Wind direction :			-5 ° deviation from main wind direction							
Temperature :	3 °C	rel. humidity :			88 %							
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
31,40	20,80	24,20	19,00	17,00	11,30	6,30	3,80	4,30	1,80			
37,00	21,40	25,30	16,90	14,60	13,70	7,60	3,90	3,50	2,00			
41,10	32,70	24,20	19,40	14,70	9,70	7,90	4,80	4,30	1,60			
45,40	24,00	21,40	14,60	15,00	11,90	7,10	5,20	4,40	1,80			
46,50	43,90	35,30	18,70	16,10	10,80	8,50	6,40	4,00	1,00			
48,50	29,50	21,70	18,00	13,70	13,10	10,20	5,70	3,60	1,00			
52,90	36,80	25,50	19,60	14,90	10,30	7,80	3,60	2,90	1,90			
52,90	37,00	30,20	20,70	16,70	11,60	8,10	4,90	3,90	1,40			
53,40	27,30	23,50	20,60	17,10	8,10	5,70	4,50	4,20	1,90			
57,70	27,10	21,20	16,30	14,40	9,10	6,70	3,00	2,50	1,90			

<b>Trial</b>												
No. :	101	carried out by/trial ident.:			BASF / Du 2			Date :		22.10.1990		
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :			91							
<b>Equipment</b>												
Manufacturer :	Platz	Type of equipment	AX 630		Nozzle :	ATR gelb						
Application rate :	300 l/ha	Spray pressure :	7 bar		Driving speed :	6,34 km/h						
Tracer :	Cu	Dosage :	0,5 %									
<b>Weather</b>												
Wind speed :	4 m/s	Wind direction :			12 ° deviation from main wind direction							
Temperature :	11,3 °C	rel. humidity :			55 %							
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
9,37	5,31	3,67	3,13	2,69	2,04	1,77	0,79	0,64	0,44			
10,53	4,03	3,29	3,04	2,74	2,43	1,28	0,93	0,95	0,51			
12,06	8,33	8,44	6,12	4,58	1,40	1,68	1,23	0,91	1,00			
14,03	9,87	7,71	6,14	4,10	1,78	1,57	1,28	0,94	0,55			
15,17	12,59	4,61	4,13	2,68	1,67	1,10	1,05	0,72	0,29			
15,95	10,49	5,48	4,36	2,67	1,59	1,29	1,05	0,64	0,03			
17,76	10,91	5,95	3,58	2,71	2,35	1,86	1,10	0,92	0,50			
22,11	12,16	11,61	4,07	2,59	1,51	1,56	1,34	0,77	0,50			
22,31	13,77	12,85	8,49	5,11	3,19	2,16	1,13	1,10	0,48			
27,97	13,96	11,79	8,69	4,55	3,27	2,37	1,67	0,81	0,53			

<b>Trial</b>											
No. :	102	carried out by/trial ident.:	BASF / DU 3	Date :	22.10.1990						
<b>Crop</b>											
Kind :	O	Growth stage :	91								
<b>Equipment</b>											
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	ATR gelb						
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,34 km/h						
Tracer :	Cu	Dosage :	0,5 %								
<b>Weather</b>											
Wind speed :	4,3 m/s		Wind direction :	15 ° deviation from main wind direction							
Temperature :	11,8 °C		rel. humidity :	54 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
9,96	8,36	5,95	6,10	4,98	4,38	2,28	0,98	0,88	0,45		
14,41	10,11	8,31	6,87	4,75	2,69	1,53	0,48	0,35	0,18		
14,76	10,68	7,16	6,69	5,35	1,82	1,07	0,95	0,71	0,41		
15,78	10,57	7,73	5,86	4,52	2,65	1,85	0,74	0,50	0,24		
16,42	11,07	7,34	4,96	3,64	1,14	0,87	0,79	0,56	0,31		
16,49	11,08	6,33	6,01	3,37	1,90	1,32	0,73	0,49	0,25		
17,02	0,51	6,97	6,81	5,78	2,40	1,65	1,27	0,70	0,48		
19,21	13,46	9,90	6,38	4,06	2,53	1,58	0,88	0,68	0,28		
21,44	6,66	5,38	3,21	4,95	3,03	2,01	0,86	0,47	0,29		
23,01	20,07	11,32	5,00	3,30	2,15	1,10	0,62	0,39	0,19		

<b>Trial</b>											
No. :	103	carried out by/trial ident.:	BASF / DU 4	Date :	22.10.1990						
<b>Crop</b>											
Kind :	O	Growth stage :	91								
<b>Equipment</b>											
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	ATR gelb						
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,34 km/h						
Tracer :	Cu	Dosage :	0,5 %								
<b>Weather</b>											
Wind speed :	3,8 m/s		Wind direction :	20 ° deviation from main wind direction							
Temperature :	11,7 °C		rel. humidity :	51 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
4,80	4,99	4,01	2,35	1,68	0,92	0,61	0,55	0,52	0,38		
6,18	4,29	3,17	2,50	1,52	1,33	0,89	0,58	0,41	0,24		
8,20	3,64	3,23	2,83	1,68	1,00	0,69	0,67	0,46	0,36		
8,41	4,48	3,61	2,06	1,84	1,47	0,93	0,45	0,39	0,23		
9,09	4,41	3,49	2,11	1,63	0,90	0,72	0,48	0,44	0,24		
10,06	4,90	3,87	3,31	2,35	1,74	1,44	0,58	0,47	0,35		
10,10	7,46	4,00	2,64	2,24	1,48	1,18	0,66	0,42	0,22		
11,44	6,68	4,38	3,04	1,90	1,04	1,13	0,73	0,51	0,28		
12,01	5,71	4,11	3,63	2,50	1,25	2,19	0,62	0,42	0,29		
12,70	8,09	3,78	2,85	2,81	1,76	1,42	0,66	0,55	0,35		

<b>Trial</b>											
No. :	104	carried out by/trial ident.:		BASF / DU 5	Date :	22.10.1990					
<b>Crop</b>											
Kind :	<input checked="" type="radio"/>	Growth stage :		91							
<b>Equipment</b>											
Manufacturer :	Platz	Type of equipment	AX 630	Nozzle :	ATR gelb						
Application rate :	300 l/ha	Spray pressure :	7 bar	Driving speed :	6,34 km/h						
Tracer :	Cu	Dosage :	0,5 %								
<b>Weather</b>											
Wind speed :	3,4 m/s		Wind direction :	20 ° deviation from main wind direction							
Temperature :	11,4 °C		rel. humidity :	54 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
5,75	4,06	3,23	3,16	2,91	2,13	0,97	0,53	0,41	0,21		
6,37	6,09	3,89	2,69	2,35	1,90	1,22	0,59	0,39	0,19		
6,91	4,00	4,34	5,42	2,05	1,01	0,93	0,85	0,47	0,28		
6,94	3,65	2,06	1,44	0,67	0,89	0,63	0,46	0,33	0,21		
8,49	4,04	3,17	3,55	2,81	1,73	1,17	0,57	0,29	0,25		
8,59	0,38	3,35	4,02	2,07	1,14	0,76	0,39	0,33	0,21		
9,37	4,88	4,23	3,80	3,12	1,49	1,03	0,43	0,28	0,15		
10,41	5,46	3,43	3,21	2,57	1,33	0,84	0,39	0,38	0,19		
11,28	12,83	6,36	4,88	4,24	1,40	0,97	0,55	0,42	0,21		
12,76	7,48	5,84	3,58	2,79	1,33	0,80	0,42	0,28	0,13		

<b>Trial</b>											
No. :	43	carried out by/trial ident.:		BAYER / I	Date :	14.09.1989					
<b>Crop</b>											
Kind :	<input checked="" type="radio"/>	Growth stage :		85							
<b>Equipment</b>											
Manufacturer :	Holder	Type of equipment	TU 61	Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	10 bar	Driving speed :	6 km/h						
Tracer :	Cu	Dosage :	0,5 %								
<b>Weather</b>											
Wind speed :	2,9 m/s		Wind direction :	-4 ° deviation from main wind direction							
Temperature :	19,8 °C		rel. humidity :	65 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
8,13	7,48	6,92	6,48	6,36	5,25	3,57	1,34	0,58	0,21		
8,32	8,60	8,49	6,84	5,92	5,02	2,57	1,56	0,65	0,21		
10,35	6,84	7,76	8,02	5,76	4,07	2,42	1,82	0,59	0,23		
12,62	9,04	7,48	7,79	4,76	3,13	1,67	1,67	0,96	0,64		
12,84	9,71	7,59	6,91	5,69	3,91	1,82	1,62	0,94	1,48		
13,18	10,16	14,52	5,25	4,35	2,90	1,67	1,96	1,04	0,77		
13,40	13,51	8,37	6,59	5,14	3,46	3,57	2,68	1,30	0,42		
13,85	8,60	11,39	7,82	7,15	4,91	4,13	1,45	1,04	0,22		
17,87	13,51	7,93	5,00	4,35	3,24	2,46	2,90	1,79	0,42		
19,32	11,03	11,72	9,36	6,59	5,14	4,13	1,84	1,12	0,37		

<b>Trial</b>												
No. :	44	carried out by/trial ident.:		BAYER / II	Date :		14.09.1989					
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :		85								
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	TU 61		Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	10 bar		Driving speed :	6 km/h						
Tracer :	Cu	Dosage :	0,5 %									
<b>Weather</b>												
Wind speed :	2,9 m/s		Wind direction :	-12 ° deviation from main wind direction								
Temperature :	20 °C		rel. humidity :	64 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
5,99	5,79	3,81	2,99	3,06	2,22	1,46	0,87	0,40	0,29			
6,26	7,37	3,77	3,28	2,63	2,41	1,46	0,95	0,31	0,47			
7,63	7,76	6,64	4,83	4,58	3,34	1,42	0,93	0,42	0,25			
7,75	7,46	6,20	6,37	3,29	1,89	2,12	1,25	0,80	0,22			
8,57	3,07	3,34	2,46	2,03	1,70	1,67	0,75	0,61	0,29			
8,80	7,04	6,99	6,30	4,70	2,79	1,42	1,03	0,38	0,20			
10,02	7,91	9,20	8,95	8,80	4,31	2,20	0,70	0,49	0,15			
10,14	6,16	5,92	6,06	6,44	6,54	3,13	0,75	0,46	0,13			
10,76	6,87	7,72	8,09	9,17	6,05	2,57	0,79	0,49	0,15			
10,76	7,36	6,00	5,62	4,77	3,42	2,24	1,01	0,52	0,27			

<b>Trial</b>												
No. :	45	carried out by/trial ident.:		BAYER / III	Date :		14.09.1989					
<b>Crop</b>												
Kind :	<input checked="" type="radio"/>	Growth stage :		85								
<b>Equipment</b>												
Manufacturer :	Holder	Type of equipment	TU 61		Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	10 bar		Driving speed :	6 km/h						
Tracer :	Cu	Dosage :	0,5 %									
<b>Weather</b>												
Wind speed :	3,3 m/s		Wind direction :	7 ° deviation from main wind direction								
Temperature :	21,4 °C		rel. humidity :	60 %								
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
7,17	5,08	6,25	6,25	5,83	7,43	6,15	3,51	0,80	0,21			
7,94	6,07	4,53	5,81	6,27	5,56	4,23	3,08	0,86	0,14			
7,99	4,16	3,93	4,30	4,27	4,34	3,19	1,84	1,31	0,35			
8,02	3,24	3,24	3,06	3,81	3,18	2,95	1,81	1,38	0,37			
9,49	9,43	3,42	2,27	2,71	1,99	1,76	1,38	1,81	0,36			
9,84	6,92	4,21	2,15	0,77	1,76	1,64	1,52	1,49	0,35			
10,56	11,27	10,37	8,62	7,19	3,10	2,51	1,14	0,30	0,24			
10,66	10,36	11,76	9,91	8,47	4,85	2,98	2,49	0,50	0,26			
10,78	8,61	5,98	2,79	0,79	1,57	1,53	0,93	1,15	0,36			
16,05	13,08	10,03	9,67	8,57	3,60	2,47	1,67	0,51	0,27			

<b>Trial</b>											
No. :	46	carried out by/trial ident.:		BAYER / IV	Date :	14.09.1989					
<b>Crop</b>											
Kind :	<input type="radio"/>	Growth stage :		85							
<b>Equipment</b>											
Manufacturer :	Holder	Type of equipment	TU 61	Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	10 bar	Driving speed :	6 km/h						
Tracer :	Cu	Dosage :	0,5 %								
<b>Weather</b>											
Wind speed :	3 m/s		Wind direction :	12 ° deviation from main wind direction							
Temperature :	22 °C		rel. humidity :	58 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
5,55	4,59	5,26	4,60	3,31	2,01	1,60	0,26	0,33	0,28		
5,92	4,64	4,11	3,39	3,97	1,71	1,40	0,26	0,32	0,15		
5,96	3,88	4,04	2,78	1,60	1,32	1,06	0,17	0,32	0,15		
6,34	3,85	3,78	3,15	2,54	1,49	1,43	0,33	0,81	0,32		
7,02	5,21	4,48	4,11	4,37	1,47	1,48	0,34	0,34	0,34		
7,20	7,46	3,62	2,88	1,99	1,47	1,27	0,27	0,35	0,13		
7,23	5,65	4,32	3,27	3,13	1,98	1,30	0,28	0,32	0,13		
7,40	5,53	3,99	2,56	2,06	1,51	1,71	0,23	0,54	0,35		
7,87	6,15	3,87	3,62	2,37	1,48	0,73	0,27	0,38	0,18		
8,90	6,06	8,84	6,14	4,92	1,76	1,37	0,29	0,38	0,29		

<b>Trial</b>											
No. :	47	carried out by/trial ident.:		BAYER / V	Date :	14.09.1989					
<b>Crop</b>											
Kind :	<input type="radio"/>	Growth stage :		85							
<b>Equipment</b>											
Manufacturer :	Holder	Type of equipment	TU 61	Nozzle :	Albuz gelb						
Application rate :	300 l/ha	Spray pressure :	10 bar	Driving speed :	6 km/h						
Tracer :	Cu	Dosage :	0,5 %								
<b>Weather</b>											
Wind speed :	3,1 m/s		Wind direction :	1 ° deviation from main wind direction							
Temperature :	20,3 °C		rel. humidity :	54 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
4,59	5,46	5,01	3,48	2,48	1,63	1,07	0,89	0,67	0,13		
7,08	8,98	7,59	5,03	4,88	2,34	1,35	0,98	0,58	0,19		
7,51	7,13	5,72	2,25	2,84	1,58	1,30	0,97	0,71	0,13		
8,47	9,84	8,24	6,03	4,27	4,48	2,76	1,39	0,71	0,20		
8,65	6,42	5,70	5,06	4,91	2,35	2,27	1,19	0,68	0,37		
8,97	5,85	4,28	3,52	2,87	3,09	3,11	1,82	1,22	0,35		
10,60	9,18	13,37	5,93	4,60	3,52	3,12	1,66	0,91	0,18		
10,64	6,53	5,98	4,24	4,28	2,26	2,24	1,24	0,81	0,30		
11,17	9,96	8,80	5,78	4,82	3,74	2,52	1,83	1,16	0,25		
12,42	10,07	8,28	5,85	5,79	4,43	3,13	1,62	0,83	0,25		

**Trial**

No. : 48 carried out by/trial ident.: BAYER / VI Date : 08.08.1989

**Crop**

Kind :  Growth stage : 85

**Equipment**

Manufacturer :	Holder	Type of equipment	TU 73	Nozzle :	Albuz gelb
Application rate :	300 l/ha	Spray pressure :	10 bar	Driving speed :	6 km/h
Tracer :	Cu	Dosage :	0,5 %		

**Weather**

Wind speed : 2,3 m/s Wind direction : 17 ° deviation from main wind direction  
 Temperature : 21,6 °C rel. humidity : 84 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
3,55	2,90	2,80	2,38	2,28	1,66	1,35	1,04	0,83	0,38		
4,69	4,56	3,32	2,49	2,07	1,45	1,24	1,04	0,65	0,34		
4,77	4,15	4,66	4,97	4,15	3,11	1,76	0,93	0,80	0,60		
5,54	4,87	4,46	2,90	2,69	2,69	3,11	0,93	0,64	0,43		
5,60	4,56	3,73	2,49	2,18	1,55	1,55	0,93	0,54	0,29		
5,70	4,77	4,46	4,04	3,52	2,80	1,76	0,62	0,48	0,37		
6,01	3,52	3,32	3,11	3,00	2,69	1,86	1,35	0,80	0,40		
6,23	4,97	4,35	3,42	2,49	1,66	2,38	0,93	0,59	0,36		
7,46	5,49	4,66	2,90	2,28	1,86	1,45	0,83	0,81	0,49		
8,27	7,36	5,60	4,46	3,42	1,97	1,14	0,83	0,64	0,36		

**Trial**

No. : 16 carried out by/trial ident.: SL / V3 Date : 13.10.1989

**Crop**

Kind :  Growth stage : 91

**Equipment**

Manufacturer :	Sorarui	Type of equipment	Axial	Nozzle :	APT gelb
Application rate :	250 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed : ,75 m/s Wind direction : 28 ° deviation from main wind direction  
 Temperature : 11,2 °C rel. humidity : 77 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
21,66	13,75	6,80	5,57	4,35	1,58	0,67	0,27	0,16	0,04		

<b>Trial</b>											
No. :	17	carried out by/trial ident.:			SL / V4		Date :			13.10.1989	
<b>Crop</b>											
Kind :	O	Growth stage :			91						
<b>Equipment</b>											
Manufacturer :	Sorarui	Type of equipment	Axial	Nozzle :	APT gelb						
Application rate :	250 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h						
Tracer :	BSF	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	,75 m/s	Wind direction :	30 ° deviation from main wind direction								
Temperature :	11,3 °C	rel. humidity :	77 %								
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
13,60	7,52	4,50	3,56	2,01	0,32	0,10	0,05	0,05	0,04		

<b>Trial</b>											
No. :	18	carried out by/trial ident.:			SL / V5		Date :			13.10.1989	
<b>Crop</b>											
Kind :	O	Growth stage :			91						
<b>Equipment</b>											
Manufacturer :	Sorarui	Type of equipment	Axial	Nozzle :	P 1,5 CX						
Application rate :	500 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h						
Tracer :	BSF	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	,75 m/s	Wind direction :	0 ° deviation from main wind direction								
Temperature :	12,2 °C	rel. humidity :	81 %								
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
18,25	12,85	8,29	5,07	3,89	1,40	0,40	0,13	0,09	0,08		

<b>Trial</b>													
No. :	19	carried out by/trial ident.:			SL / V6	Date :	13.10.1989						
<b>Crop</b>													
Kind :	O	Growth stage :			91								
<b>Equipment</b>													
Manufacturer :	Sorarui	Type of equipment	Axial	Nozzle :	P 1,5 CX								
Application rate :	500 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h								
Tracer :	BSF	Dosage :	0,1 %										
<b>Weather</b>													
Wind speed :	,75 m/s	Wind direction :	25 ° deviation from main wind direction										
Temperature :	10,9 °C	rel. humidity :	67 %										
<b>Measured deposited drift material in % relative to the application rate</b>													
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m		
13,12	10,87	8,26	5,46	1,91	0,22	0,14	0,11	0,10	0,09		0,10		

<b>Trial</b>													
No. :	20	carried out by/trial ident.:			SL / V7	Date :	13.10.1989						
<b>Crop</b>													
Kind :	O	Growth stage :			91								
<b>Equipment</b>													
Manufacturer :	Sorarui	Type of equipment	Axial	Nozzle :	P 2,0 CX								
Application rate :	1000 l/ha	Spray pressure :	17 bar	Driving speed :	6 km/h								
Tracer :	BSF	Dosage :	0,1 %										
<b>Weather</b>													
Wind speed :	,75 m/s	Wind direction :	25 ° deviation from main wind direction										
Temperature :	14,8 °C	rel. humidity :	62 %										
<b>Measured deposited drift material in % relative to the application rate</b>													
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m		
10,15	8,10	5,90	4,56	3,27	0,95	0,36	0,01	0,01	0,01		0,10		

**Trial**

No. : 22 carried out by/trial ident.: SL / V9 Date : 13.10.1989

**Crop**

Kind :  Growth stage : 91

**Equipment**

Manufacturer :	Holder	Type of equipment	Querstr.	Nozzle :	APT gelb
Application rate :	250 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed : ,75 m/s Wind direction : 0 ° deviation from main wind direction  
 Temperature : 15 °C rel. humidity : 60 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
12,35	7,31	4,89	4,47	3,97	1,99	1,36	0,66	0,23	0,09		0,10

**Trial**

No. : 23 carried out by/trial ident.: SL / V10 Date : 13.10.1989

**Crop**

Kind :  Growth stage : 91

**Equipment**

Manufacturer :	Holder	Type of equipment	Querstr.	Nozzle :	P 1,5 CX
Application rate :	500 l/ha	Spray pressure :	8 bar	Driving speed :	6 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed : ,75 m/s Wind direction : 30 ° deviation from main wind direction  
 Temperature : 15,5 °C rel. humidity : 60 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
12,20	11,53	7,88	3,38	1,66	0,11	0,05	0,04	0,06	0,05		0,10

**Trial**

No. : 163 carried out by/trial ident.: FhG / 1 Date : 26.09.1990

**Crop**

Kind : O Growth stage : 91

**Equipment**

Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	ATR gelb
Application rate :	275 l/ha	Spray pressure :	10 bar	Driving speed :	5,7 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed :	,12 m/s	Wind direction :	9 ° deviation from main wind direction
Temperature :	13 °C	rel. humidity :	71 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
10,30	9,90	6,60	2,80	1,00	0,60	0,20	0,30	0,10	0,04		
15,60	10,30	5,80	5,90	4,40	1,10	0,40	0,16	0,09	0,05		
19,80	13,60	4,20	4,10	2,70	1,10	0,40	0,09	0,15	0,04		
20,20	17,70	4,30	4,10	2,70	1,10	0,70	0,40	0,09	0,03		
< 25,90	13,20	4,70	2,50	2,10	0,60	0,30	0,10	0,07	0,04		

**Trial**

No. : 164 carried out by/trial ident.: FhG / 2 Date : 26.09.1990

**Crop**

Kind : O Growth stage : 91

**Equipment**

Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	ATR gelb
Application rate :	338 l/ha	Spray pressure :	15 bar	Driving speed :	5,6 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed :	,41 m/s	Wind direction :	11 ° deviation from main wind direction
Temperature :	14 °C	rel. humidity :	70 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
12,40				4,40	2,30	1,10	0,50	0,27	0,07		
20,80				4,10	1,80	1,00	0,40	0,23	0,07		
22,40				3,80	2,40	1,10	0,50	0,30	0,06		
24,80				2,50	3,10	2,30	0,90	0,30	0,08		
24,80				4,70	3,60	2,40	1,30	0,47	0,09		

**Trial**

No. : 165 carried out by/trial ident.: FhG / 3 Date : 26.09.1990

**Crop**

Kind :  Growth stage : 91

**Equipment**

Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	ATR gelb
Application rate :	338 l/ha	Spray pressure :	15 bar	Driving speed :	5,5 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed : ,87 m/s Wind direction : 37 ° deviation from main wind direction  
 Temperature : 15 °C rel. humidity : 64 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
12,70	11,70	12,70	8,40	8,70	5,00	3,50	1,14	0,44	0,10		
12,70	12,10	9,40	9,00	6,70	4,70	5,50	0,87	0,70	0,17		
13,10	9,70	5,70	4,70	3,00	1,70		1,40	0,64	0,11		
15,10	19,80	16,40	14,70	8,40	5,70	2,90	1,30	0,60	0,10		
< 17,70	23,10	18,40	13,40	8,40	1,70	2,40	1,00	0,64	0,12		

**Trial**

No. : 166 carried out by/trial ident.: FhG / 4 Date : 26.09.1990

**Crop**

Kind :  Growth stage : 91

**Equipment**

Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	ATR gelb
Application rate :	275 l/ha	Spray pressure :	10 bar	Driving speed :	5,9 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed : ,54 m/s Wind direction : 18 ° deviation from main wind direction  
 Temperature : 15 °C rel. humidity : 63 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
13,60	14,40	9,50	7,00	7,00	6,90	4,10	1,00	0,58	0,10		
13,60	14,40	9,50	10,30	7,40	4,50	3,70	1,20	0,33	0,07		
17,30	18,90	9,10	5,80	2,90	2,90	2,30	1,20	0,66	0,08		
24,30	16,90	15,60	6,60	5,40	5,00	3,50	1,50	0,54	0,09		
26,80	22,60	12,30	11,90	12,80	6,20	4,40	1,20	0,40	0,09		

**Trial**

No. : 167 carried out by/trial ident.: FhG / 5 Date : 27.09.1990

**Crop**

Kind : O Growth stage : 91

**Equipment**

Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	ATR gelb
Application rate :	275 l/ha	Spray pressure :	10 bar	Driving speed :	5,5 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed : ,64 m/s Wind direction : 48 ° deviation from main wind direction  
 Temperature : 11 °C rel. humidity : 78 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
5,80	7,40	3,70	2,80	2,00	0,90	0,95	0,41	0,15	0,05		
11,50	6,60	3,70	2,60	1,60	0,60	0,54	0,58	0,19	0,06		
13,60	9,10	3,30	4,80	3,70	1,30	0,74	0,37	0,23	0,14		
15,60	11,50	9,10	6,90	2,80	0,90	0,45	0,37	0,23	0,07		
16,90	7,80	2,90	2,50	1,90	0,80	0,70	0,41	0,26	0,09		

**Trial**

No. : 168 carried out by/trial ident.: FhG / 6 Date : 27.09.1990

**Crop**

Kind : O Growth stage : 91

**Equipment**

Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	ATR gelb
Application rate :	338 l/ha	Spray pressure :	15 bar	Driving speed :	6,2 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed : 1,48 m/s Wind direction : 25 ° deviation from main wind direction  
 Temperature : 14 °C rel. humidity : 55 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
6,00	11,70	8,70	6,70	5,70	2,30	2,40	1,00	0,67	0,09		
7,00	9,70	8,40	4,70	6,70	3,70	4,40	1,70	0,07	0,29		
11,40	14,40	7,70	4,40	2,70	1,00	1,70	0,60	0,20	0,04		
12,40	16,10	15,40	10,40	8,40	3,00	1,90	0,70	0,27	0,05		
16,40	20,40	13,70	10,40	5,70	1,70	1,50	0,70	0,30	0,05		

**Trial**

No. : 169 carried out by/trial ident.: FhG / 7 Date : 27.09.1990

**Crop**

Kind : O Growth stage : 91

**Equipment**

Manufacturer :	Hardi	Type of equipment	Radial	Nozzle :	ATR gelb
Application rate :	338 l/ha	Spray pressure :	15 bar	Driving speed :	6,3 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed :	2,7 m/s	Wind direction :	18 ° deviation from main wind direction
Temperature :	13 °C	rel. humidity :	54 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
9,00	9,40	6,40	8,00	7,00	4,00	3,30	3,30	1,30	0,64		
11,70	15,40	14,10	8,70	7,40	6,40	2,70	2,10	1,10	0,30		
12,40	12,70	10,70	6,70	9,40	4,00	3,30	2,80	1,80	0,80		
15,40	18,80	11,70	9,00	9,40	3,30	3,00	2,40	1,70	0,64		
16,10	22,80	10,70	7,70	8,00	7,00	2,30	2,50	2,00	0,50		

**Trial**

No. : 1 carried out by/trial ident.: SL / 090-1 Date : 26.09.1990

**Crop**

Kind : O Growth stage : 91

**Equipment**

Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	ATR gelb
Application rate :	275 l/ha	Spray pressure :	10 bar	Driving speed :	6 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed :	,6 m/s	Wind direction :	30 ° deviation from main wind direction
Temperature :	12,6 °C	rel. humidity :	72 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
18,70	14,63	7,37	4,01	2,78	1,08	0,66	0,27	0,25	0,03		

<b>Trial</b>											
No. :	2	carried out by/trial ident.:		SL / 090-2	Date :	26.09.1990					
<b>Crop</b>											
Kind :	<input checked="" type="radio"/>	Growth stage :		91							
<b>Equipment</b>											
Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	ATR gelb						
Application rate :	338 l/ha	Spray pressure :	15 bar	Driving speed :	6 km/h						
Tracer :	BSF	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	,9 m/s		Wind direction :	20 ° deviation from main wind direction							
Temperature :	13,9 °C		rel. humidity :	60 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
25,37	21,30	17,53	11,29	7,31	3,83	2,30	0,79	0,40	0,22		

<b>Trial</b>											
No. :	3	carried out by/trial ident.:		SL / 090-3	Date :	26.09.1990					
<b>Crop</b>											
Kind :	<input checked="" type="radio"/>	Growth stage :		91							
<b>Equipment</b>											
Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	ATR gelb						
Application rate :	338 l/ha	Spray pressure :	15 bar	Driving speed :	6 km/h						
Tracer :	BSF	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	1,5 m/s		Wind direction :	23 ° deviation from main wind direction							
Temperature :	13,9 °C		rel. humidity :	61 %							
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
16,18	12,59	11,58	10,97	10,00	5,66	3,53	1,79	0,78	0,32		

<b>Trial</b>												
No. :	4	carried out by/trial ident.:			SL / 090-4	Date :			26.09.1990			
<b>Crop</b>												
Kind :	O	Growth stage :			91							
<b>Equipment</b>												
Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	ATR gelb							
Application rate :	275 l/ha	Spray pressure :	10 bar	Driving speed :	6 km/h							
Tracer :	BSF	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	,9 m/s	Wind direction :	17 ° deviation from main wind direction									
Temperature :	14,5 °C	rel. humidity :	61 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
19,69	17,10	15,47	11,69	7,95	4,31	2,57	1,01	0,38	0,13			

<b>Trial</b>												
No. :	5	carried out by/trial ident.:			SL / 090-5	Date :			26.09.1990			
<b>Crop</b>												
Kind :	O	Growth stage :			91							
<b>Equipment</b>												
Manufacturer :	Hardi	Type of equipment	Radial	Nozzle :	ATR gelb							
Application rate :	338 l/ha	Spray pressure :	15 bar	Driving speed :	6 km/h							
Tracer :	BSF	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	3,4 m/s	Wind direction :	30 ° deviation from main wind direction									
Temperature :	12,5 °C	rel. humidity :	62 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
18,34	17,85	16,96	12,36	9,30	5,71	4,36	2,45	1,36	0,67			

**Trial**

No. : 6 carried out by/trial ident.: SL / 090-6 Date : 26.09.1990

**Crop**

Kind :  Growth stage : 91

**Equipment**

Manufacturer :	Hardi	Type of equipment	Radial	Nozzle :	ATR gelb
Application rate :	275 l/ha	Spray pressure :	10 bar	Driving speed :	6 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed : 2,6 m/s Wind direction : 24 ° deviation from main wind direction  
 Temperature : 13,5 °C rel. humidity : 55 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
27,17	25,23	24,00	16,96	11,13	5,66	3,87	1,60	1,02	0,49		

## Annex D: Results of the drift trials in hops

D - 1

<b>Trial</b>																		
No. : 115 carried out by/trial ident.: HOECHST / 1											Date : 19.06.1990							
<b>Crop</b>																		
Kind : H Growth stage : 48-50																		
<b>Equipment</b>																		
Manufacturer :	Myers	Type of equipment	20/105/Z	Nozzle :	Hohlkegel													
Application rate :	1500 l/ha	Spray pressure :	29 bar	Driving speed :	2,7 km/h													
Tracer :	Cu	Dosage :	0,1 %															
<b>Weather</b>																		
Wind speed :	0 m/s	Wind direction :	0 ° deviation from main wind direction															
Temperature :	19 °C	rel. humidity :	70 %															
<b>Measured deposited drift material in % relative to the application rate</b>																		
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m							
24,02	19,45	11,14	6,21	4,75	2,47	2,83	1,92	0,79	0,39		0,12							
29,95	27,40	31,51	28,13	17,35	7,21	4,29	1,00	0,67	0,24		0,10							
40,64	44,57	23,84	13,70	8,49	5,66	4,29	1,55	0,71	0,34		0,12							
47,12	31,78	30,41	24,38	18,81	9,13	5,84	1,28	0,68	0,31		0,11							
48,22	41,10	34,43	30,78	24,02	11,42	5,39	1,64	0,68	0,24		0,11							

<b>Trial</b>																		
No. : 116 carried out by/trial ident.: HOECHST / 2											Date : 19.06.1990							
<b>Crop</b>																		
Kind :	H	Growth stage :	48-50															
<b>Equipment</b>																		
Manufacturer :	Myers	Type of equipment	20/105/Z	Nozzle :	Hohlkegel													
Application rate :	1500 l/ha	Spray pressure :	29 bar	Driving speed :	2,7 km/h													
Tracer :	Cu	Dosage :	0,1 %															
<b>Weather</b>																		
Wind speed :	1,3 m/s	Wind direction :	28 ° deviation from main wind direction															
Temperature :	21,8 °C	rel. humidity :	61 %															
<b>Measured deposited drift material in % relative to the application rate</b>																		
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m							
17,69	10,07	5,27	3,01	1,79	1,15	0,14	0,06	0,07	0,01		0,00							
20,89	11,10	4,70	1,79	1,03	1,14	0,16	0,06	0,07	0,02		0,00							
21,83	18,06	8,94	4,05	2,82	0,71	0,15	0,04	0,06	0,01		0,01							
31,52	26,91	14,30	8,28	6,21	0,40	0,16	0,06	0,07	0,02		0,01							
33,12	24,56	9,60	4,80	1,32	0,20	0,20	0,06	0,08	0,01		0,00							
53,06	38,95	18,35	9,13	3,20	0,19	0,18	0,06	0,07	0,01		0,01							

**Trial**

No. : 117 carried out by/trial ident.: HOECHST / 3

Date : 19.06.1990

**Crop**

Kind : H Growth stage : 48-50

**Equipment**

Manufacturer :	Myers	Type of equipment	20/105/Z	Nozzle :	Hohlkegel
Application rate :	1500 l/ha	Spray pressure :	29 bar	Driving speed :	2,7 km/h
Tracer :	Cu	Dosage :	0,1 %		

**Weather**

Wind speed :	0 m/s	Wind direction :	0 ° deviation from main wind direction
Temperature :	22 °C	rel. humidity :	60 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
12,61	6,68	0,85	0,26	0,08	0,09	0,07	0,07	0,05	0,03		0,02
15,24	6,49	3,20	0,72	0,11	0,10	0,06	0,07	0,04	0,03		0,01
17,31	8,75	3,39	1,51	0,17	0,09	0,08	0,05	0,04	0,03		0,00
17,59	8,84	1,41	0,73	0,55	0,09	0,07	0,04	0,04	0,04		0,13
21,55	9,78	5,46	0,42	0,11	0,13	0,08	0,06	0,03	0,04		0,00
41,40	14,40	7,15	0,38	0,10	0,09	0,08	0,05	0,04	0,03		0,00

**Trial**

No. : 118 carried out by/trial ident.: HOECHST / 4 Date : 19.06.1990

**Crop**

Kind : H Growth stage : 48-50

**Equipment**

Manufacturer :	Myers	Type of equipment	20/105/Z	Nozzle :	Hohlkegel
Application rate :	1500 l/ha	Spray pressure :	29 bar	Driving speed :	2,7 km/h
Tracer :	Cu	Dosage :	0,1 %		

**Weather**

Wind speed :	,9 m/s	Wind direction :	16 ° deviation from main wind direction
Temperature :	22,5 °C	rel. humidity :	58 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
23,05	17,22	11,01	6,87	8,00	6,59	4,05	1,22	0,73	0,22		0,05
24,74	18,35	17,78	12,42	9,22	4,52	2,92	1,60	0,73	0,23		0,11
25,12	26,34	21,92	17,03	14,11	8,00	3,58	1,69	0,93	0,28		0,10
28,51	20,23	14,40	13,55	12,51	6,49	3,58	1,60	0,80	0,23		0,05
28,51	20,60	15,62	10,82	10,44	5,27	3,01	1,51	0,52	0,19		0,11
31,90	22,20	18,06	9,22	6,59	5,36	3,39	1,13	0,64	0,11		0,09

<b>Trial</b>												
No. :	119	carried out by/trial ident.: HOECHST / 5				Date :	19.06.1990					
<b>Crop</b>												
Kind :	H	Growth stage :				48-50						
<b>Equipment</b>												
Manufacturer :	Myers	Type of equipment	20/105/Z	Nozzle :	Hohlkegel							
Application rate :	1500 l/ha	Spray pressure :	29 bar	Driving speed :	2,7 km/h							
Tracer :	Cu	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	,8 m/s	Wind direction :	17 ° deviation from main wind direction									
Temperature :	25,3 °C	rel. humidity :	51 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
6,30	6,02	5,36	4,14	3,95	2,26	1,51	0,47	0,21	0,05		0,03	
8,47	4,70	3,10	3,67	3,48	2,16	1,41	0,49	0,18	0,04		0,03	
9,50	7,81	4,99	3,10	4,05	2,26	1,22	0,52	0,11	0,03		0,02	
12,42	8,09	6,21	5,27	2,73	2,35	1,69	0,61	0,17	0,03		0,04	
15,06	7,90	5,46	3,58	3,76	1,60	1,41	0,42	0,14	0,05		0,03	
15,24	7,81	4,99	4,42	2,54	2,16	1,51	0,55	0,19	0,06		0,05	

<b>Trial</b>												
No. :	24	carried out by/trial ident.: SL / H 90-1				Date :	19.06.1990					
<b>Crop</b>												
Kind :	H	Growth stage :				45-49						
<b>Equipment</b>												
Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	D + J							
Application rate :	1143 l/ha	Spray pressure :	16 bar	Driving speed :	2,5 km/h							
Tracer :	BSF	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	1,5 m/s	Wind direction :	30 ° deviation from main wind direction									
Temperature :	25 °C	rel. humidity :	34 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
17,67	11,87	7,49	4,66	2,91	1,11	0,44	0,13	0,10	0,05		0,03	

<b>Trial</b>											
No. :	25	carried out by/trial ident.:			SL / H 90-2	Date :			20.06.1990		
<b>Crop</b>											
Kind :	H	Growth stage :			45-49						
<b>Equipment</b>											
Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	D + J						
Application rate :	1143 l/ha	Spray pressure :	16 bar	Driving speed :	2,5 km/h						
Tracer :	BSF	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	1 m/s	Wind direction :	15 ° deviation from main wind direction								
Temperature :	19 °C	rel. humidity :	69 %								
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
20,75	17,27	12,88	9,84	7,69	2,49	0,98	0,21	0,08	0,02		0,03

<b>Trial</b>											
No. :	26	carried out by/trial ident.:			SL / H 90-3	Date :			20.06.1990		
<b>Crop</b>											
Kind :	H	Growth stage :			45-49						
<b>Equipment</b>											
Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	D + J						
Application rate :	1143 l/ha	Spray pressure :	16 bar	Driving speed :	2,5 km/h						
Tracer :	BSF	Dosage :	0,1 %								
<b>Weather</b>											
Wind speed :	1,7 m/s	Wind direction :	25 ° deviation from main wind direction								
Temperature :	19 °C	rel. humidity :	67 %								
<b>Measured deposited drift material in % relative to the application rate</b>											
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
24,29	17,43	11,78	8,00	6,30	3,21	1,78	0,61	0,25	0,10		0,03

<b>Trial</b>												
No. :	27	carried out by/trial ident.:			SL / H 90-4	Date :			20.06.1990			
<b>Crop</b>												
Kind :	H	Growth stage :			45-49							
<b>Equipment</b>												
Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	D + J							
Application rate :	1143 l/ha	Spray pressure :	16 bar	Driving speed :	2,5 km/h							
Tracer :	BSF	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	1,7 m/s	Wind direction :	18 ° deviation from main wind direction									
Temperature :	22 °C	rel. humidity :	64 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
28,13	20,10	14,50	11,54	9,99	4,26	3,19	1,27	0,40	0,17		0,03	

<b>Trial</b>												
No. :	28	carried out by/trial ident.:			SL / H 90-10	Date :			31.07.1990			
<b>Crop</b>												
Kind :	H	Growth stage :			80							
<b>Equipment</b>												
Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	D + J							
Application rate :	4714 l/ha	Spray pressure :	19 bar	Driving speed :	,8 km/h							
Tracer :	BSF	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	1,8 m/s	Wind direction :	30 ° deviation from main wind direction									
Temperature :	22,3 °C	rel. humidity :	69 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
9,62	8,69	7,77	7,42	6,79	4,92	3,61	1,78	0,95	0,32			

<b>Trial</b>												
No. :	30	carried out by/trial ident.:			SL / H 90-14	Date :			01.08.1990			
<b>Crop</b>												
Kind :	H	Growth stage :			80							
<b>Equipment</b>												
Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	D + J							
Application rate :	3771 l/ha	Spray pressure :	19 bar	Driving speed :	1 km/h							
Tracer :	BSF	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	5 m/s	Wind direction :	36 ° deviation from main wind direction									
Temperature :	24 °C	rel. humidity :	59 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
7,59	6,84	6,54	5,99	5,07	3,71	2,33	1,22	0,68	0,28		0,13	

<b>Trial</b>												
No. :	31	carried out by/trial ident.:			SL / H 90-15	Date :			02.08.1990			
<b>Crop</b>												
Kind :	H	Growth stage :			80							
<b>Equipment</b>												
Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	D + J							
Application rate :	3771 l/ha	Spray pressure :	19 bar	Driving speed :	1 km/h							
Tracer :	BSF	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	4 m/s	Wind direction :	36 ° deviation from main wind direction									
Temperature :	22,5 °C	rel. humidity :	62 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
8,34	7,40	6,62	6,30	5,62	3,99	2,55	1,21	0,67	0,12		0,07	

**Trial**

No. : 32 carried out by/trial ident.: SL / H 90-16 Date : 02.08.1990

**Crop**

Kind : H Growth stage : 80

**Equipment**

Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	D + J
Application rate :	3771 l/ha	Spray pressure :	19 bar	Driving speed :	1 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed : 1,7 m/s Wind direction : 18 ° deviation from main wind direction

Temperature : 24 °C rel. humidity : 61 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
7,23	6,36	5,89	5,66	5,27	4,60	3,39	2,05	1,21	0,29		0,07

**Trial**

No. : 33 carried out by/trial ident.: SL / H 90-17 Date : 02.08.1990

**Crop**

Kind : H Growth stage : 80

**Equipment**

Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	D + J
Application rate :	3771 l/ha	Spray pressure :	19 bar	Driving speed :	1 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed : 1,5 m/s Wind direction : 12 ° deviation from main wind direction

Temperature : 24 °C rel. humidity : 61 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
10,33	8,83	7,90	7,04	6,06	3,90	2,55	1,02	0,37	0,10		0,02

**Trial**

No. : 120 carried out by/trial ident.: HOECHST / 1 Date : 08.08.1990

**Crop**

Kind : H Growth stage : 75-79

**Equipment**

Manufacturer :	Myers	Type of equipment	20/105/Z	Nozzle :	Hohlkegel
Application rate :	2000 l/ha	Spray pressure :	25 bar	Driving speed :	2 km/h
Tracer :	Cu	Dosage :	0,1 %		

**Weather**

Wind speed :	1,1 m/s	Wind direction :	12 ° deviation from main wind direction
Temperature :	19,5 °C	rel. humidity :	45 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
10,30	8,32	8,78	9,64	9,25	6,60	6,01	2,58	0,86	0,35		0,10
12,28	12,28	11,36	10,04	10,30	11,09	8,85	3,30	1,58	0,56		0,14
13,41	13,74	13,80	8,78	8,58	8,19	6,21	4,29	1,25	0,38		0,14
19,42	16,71	16,91	15,32	11,56	8,85	7,46	4,23	1,65	0,86		0,19
24,83	20,47	16,51	13,87	12,81	9,25	6,74	4,75	1,85	0,74		0,47
26,02	20,01	17,50	14,92	12,68	7,07	8,92	4,23	2,05	0,98		0,17

**Trial**

No. : 121 carried out by/trial ident.: HOECHST / 2 Date : 08.08.1990

**Crop**

Kind : H Growth stage : 75-79

**Equipment**

Manufacturer :	Myers	Type of equipment	20/105/Z	Nozzle :	Hohlkegel
Application rate :	2000 l/ha	Spray pressure :	25 bar	Driving speed :	2 km/h
Tracer :	Cu	Dosage :	0,1 %		

**Weather**

Wind speed :	2,3 m/s	Wind direction :	29 ° deviation from main wind direction
Temperature :	20,5 °C	rel. humidity :	43 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
4,12	5,33	5,07	4,50	4,38	3,49	4,44	4,82	4,18	2,16		0,17
5,77	4,18	3,87	3,11	3,23	3,68	4,53	4,12	3,99	2,09		0,28
12,43	8,50	5,20	4,50	4,76	4,76	4,31	4,38	4,38	2,41		0,34
13,32	13,32	14,39	12,17	12,24	10,14	5,58	4,44	2,73	1,71		0,35
14,46	17,31	19,91	15,66	11,41	10,27	9,32	4,63	2,41	1,27		0,29
16,55	19,85	18,70	16,49	13,95	13,95	10,78	3,93	3,23	1,71		0,41

<b>Trial</b>												
No. :	122	carried out by/trial ident.: HOECHST / 3			Date :	09.08.1990						
<b>Crop</b>												
Kind :	H	Growth stage :			75-79							
<b>Equipment</b>												
Manufacturer :	Myers	Type of equipment	20/105/Z	Nozzle :	Hohlkegel							
Application rate :	2000 l/ha	Spray pressure :	25 bar	Driving speed :	2 km/h							
Tracer :	Cu	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	0 m/s	Wind direction :	0 ° deviation from main wind direction									
Temperature :	16 °C	rel. humidity :	82 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
15,60	9,43	10,31	8,41	5,97	3,93	1,97	0,66	0,38	0,13		0,07	
18,45	12,68	10,17	7,60	5,02	3,87	1,83	0,71	0,31	0,13		0,05	
19,67	15,60	9,90	6,92	5,43	3,19	1,56	0,59	0,23	0,10		0,08	
20,21	15,47	14,04	8,75	6,78	3,46	2,37	0,96	0,51	0,16		0,07	
21,71	17,77	13,70	10,17	6,99	3,05	2,17	0,66	0,27	0,11		0,08	
22,99	13,84	13,70	10,99	7,12	2,92	1,83	0,70	0,24	0,09		0,07	

<b>Trial</b>												
No. :	123	carried out by/trial ident.: HOECHST / 4			Date :	09.08.1990						
<b>Crop</b>												
Kind :	H	Growth stage :			75-79							
<b>Equipment</b>												
Manufacturer :	Myers	Type of equipment	20/105/Z	Nozzle :	Hohlkegel							
Application rate :	2000 l/ha	Spray pressure :	25 bar	Driving speed :	2 km/h							
Tracer :	Cu	Dosage :	0,1 %									
<b>Weather</b>												
Wind speed :	1,4 m/s	Wind direction :	10 ° deviation from main wind direction									
Temperature :	22 °C	rel. humidity :	39 %									
<b>Measured deposited drift material in % relative to the application rate</b>												
1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m	
9,52	8,25	7,52	8,52	10,78	10,78	4,99	3,99	1,66	0,59		0,07	
9,58	9,71	10,45	6,79	7,19	7,65	3,93	2,06	1,00	0,44		0,07	
10,25	8,05	8,72	7,98	6,92	5,92	3,99	2,13	1,46	0,53		0,11	
11,11	10,05	13,51	11,78	8,65	4,86	3,19	2,06	1,46	0,41		0,06	
11,98	12,51	11,51	11,11	7,85	5,32	4,06	2,13	0,87	0,45		0,05	
13,84	12,38	10,65	8,85	8,52	4,79	4,06	1,73	1,00	0,44		0,05	

**Trial**

No. : 124 carried out by/trial ident.: HOECHST / 5 Date : 09.08.1990

**Crop**

Kind : H Growth stage : 75-79

**Equipment**

Manufacturer :	Myers	Type of equipment	20/105/Z	Nozzle :	Hohlkegel
Application rate :	2000 l/ha	Spray pressure :	25 bar	Driving speed :	2 km/h
Tracer :	Cu	Dosage :	0,1 %		

**Weather**

Wind speed :	2,2 m/s	Wind direction :	14 ° deviation from main wind direction
Temperature :	22,5 °C	rel. humidity :	37 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
7,13	6,35	6,81	4,80	3,18	3,89	2,33	1,30	1,94	0,18		0,08
9,14	8,36	5,57	5,38	3,69	3,05	2,14	1,30	1,10	0,40		0,06
9,40	7,52	7,71	8,56	6,22	3,24	2,66	2,72	1,88	0,29		0,05
9,40	10,05	9,46	8,30	6,48	2,14	2,14	2,01	1,81	0,15		0,10
12,31	11,99	8,43	10,63	7,45	4,21	3,82	3,50	1,36	0,45		0,01
13,35	12,64	9,40	8,81	8,30	5,31	3,44	3,24	1,49	0,34		0,03

**Trial**

No. : 111 carried out by/trial ident.: SL / H 91-2 Date : 06.08.1991

**Crop**

Kind : H Growth stage : 80

**Equipment**

Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	D + J
Application rate :	3684 l/ha	Spray pressure :	20 bar	Driving speed :	1,2 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed :	1 m/s	Wind direction :	30 ° deviation from main wind direction
Temperature :	28 °C	rel. humidity :	35 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
						1,61		0,29			0,04

**Trial**

No. :	113	carried out by/trial ident.:	SL / H 91-4	Date :	07.08.1991
-------	-----	------------------------------	-------------	--------	------------

**Crop**

Kind :	H	Growth stage :	80
--------	---	----------------	----

**Equipment**

Manufacturer :	Myers	Type of equipment	Axial	Nozzle :	D + J
Application rate :	3684 l/ha	Spray pressure :	20 bar	Driving speed :	1,2 km/h
Tracer :	BSF	Dosage :	0,1 %		

**Weather**

Wind speed :	1,5 m/s	Wind direction :	24 ° deviation from main wind direction
Temperature :	28 °C	rel. humidity :	38 %

**Measured deposited drift material in % relative to the application rate**

1 m	2 m	3 m	4 m	5 m	7,5 m	10 m	15 m	20 m	30 m	40 m	50 m
						3,88		1,79			0,07