

## DIMETHOMORPH (225)

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### EXPLANATION

Dimethomorph, a systemic fungicide, was first evaluated by JMPR in 2007 (T, R) and subsequently evaluated in 2014 for residues. The 2007 Meeting established an ADI of 0–0.2 mg/kg bw and an ARfD of 0.6 mg/kg bw, and defined the residue (for compliance with the MRL and for the estimation of dietary intake) for plant and animal commodities as dimethomorph (sum of isomers).

In the 2014 Meeting, a short-term intake concern for children from consumption of leaf lettuce was identified and an alternative GAP was not available. At the 47<sup>th</sup> Session of the CCPR (2015), dimethomorph was scheduled for the evaluation of additional MRL by 2016 JMPR. This Meeting received GAP information and residue data on head lettuce and lamb's lettuce from the manufacturer.

### Residue analysis

#### Analytical methods

Method 575/0 (or 535/1 of only different name) was used in lettuce residue trials. In this method dimethomorph is extracted with a mixture of methanol, water and hydrochloric acid. An aliquot of the extract is centrifuged and partitioned at alkaline conditions against cyclohexane. The final determination of dimethomorph is performed by LC-MS/MS. The 2007 JMPR considered this method as suitable for determination of dimethomorph in various plant matrices.

Table 1 Analytical recoveries of dimethomorph in lettuce

Matrix	Fortification level (mg/kg)	No. of analysis	Recovery (%)		Method	Trial references
			Individual value	Mean		
From new residue trials submitted to this Meeting						
Lettuce	0.01	5	82, 82, 74, 73, 86	79 <sup>a</sup>	SOP-PA.0268 Rev.00,08/29/2005 (identical with 575/0)	2006/1037827
	0.1	1	75			
Head + Leaves	0.01	2	66, 76	71	535/1	2007/1016463
	0.1	2	74, 82	78		
Leaves	0.01	1	83		535/1	2007/1016463
	0.1	1	78			
From residue trials submitted to 2007 Meeting						
Lettuce, head	0.01	2	75, 99	87	575/0	2005/1016643
	0.1	2	70, 76	73		
Lettuce, head	0.01	2	63, 63	63 <sup>b</sup>	575/0	2005/1027640
	0.1	1	67			
	1.0	1	65			
Lamb's lettuce, plant without root	0.01	1	57	68 <sup>b</sup>	575/0	2005/1027640
	0.1	1	79			

<sup>a</sup> RSD, 7%

<sup>b</sup> The procedural recoveries were not acceptable due to low mean recoveries (< 70%).

Procedural recoveries in residue trials are shown in Table 1. In residue trials for head lettuce and lamb's lettuce (greenhouse trials; Ref. 2005/1027640), the procedural mean recoveries were 63% and 68%, respectively. Recoveries in the other trials were within an acceptable range.

***Stability of residues in stored analytical samples***

In all residue trials, all specimens were stored frozen at or below -18 °C. The maximum storage intervals from harvest until analysis were in the range of 5–8 months.

**USE PATTERN**

Dimethomorph is a morpholine fungicide with protective action and registered for use worldwide. The Meeting received information on the use pattern of dimethomorph on lettuce allowed in Italy.

Table 2 Registered use of dimethomorph on leaf lettuce in Italy

Crop	Formulation	Method	Application				PHI (days)
			kg ai/ha	kg ai/hL	Max. no.	Interval days	
Lettuce (open field and greenhouse)	Emulsifiable concentrate (EC)	Foliar spray	0.144	0.0144	3	7–10	3

With water volumes lower than 1000 L/ha (i.e. for low volumes), please refer to dosage per hectare; with volumes greater than 1000 L/ha, please refer to dosage per hectolitre.

**RESIDUES RESULTING FROM SUPERVISED TRIALS ON CROPS**

The Meeting received supervised residue trials on head lettuce and lamb's lettuce. All trials were carried out in Southern European countries. The details are summarized in the tables below.

Crop group	Commodity	Table No.
Group 013 Leafy vegetables (including Brassica leafy vegetables)	Lettuce, Head (VL 0482)	3, 4
	Lettuce, Leaf (VL 0483)	5
	Corn salad (Lamb's lettuce) VL 0470)	6, 7

All studies were conducted per GLP. In control samples of all trials, dimethomorph was not detected above 0.01 mg/kg.

***Head lettuce***

During the growing seasons 2005 and 2006, eight trials were conducted in Southern Europe on open field lettuce (Report No., 2006/1037827 and 2007/1016463). EC formulation (72 g/L + 40 g/L of pyraclostrobin) was applied (foliar) three times at a rate of 0.18 kg ai/ha of dimethomorph beginning about 17 ( $\pm 1$ ) days before expected harvest with a spray interval of 7 days. The spray volume used was 400 L/ha. In all trials 50 to 100 g lettuce were collected on Day 0, 2–3 and on Day 6–8 after the last application (DALA).

During the growing seasons 2004 and 2005, eight trials were conducted under greenhouse conditions (Report No., 2005/1016643 and 2005/1027640). These trials were previously evaluated by 2007 JMPR. The WG formulation of dimethomorph (12% + 6.7% of pyraclostrobin) was applied (foliar) three times at a rate of 0.18 kg ai/ha to head lettuce beginning about 17 days before expected harvest with a spray interval of 7 days. The spray volume used was 400 L/ha. In 2005 (Report No., 2005/1027640), the set of four trials conducted with WG formulation was compared to the formulation EC (72 g/L) in a bridging study. In all trials lettuce specimens were collected on Day 0, 3,

## Dimethomorph

and on Day 7 after the last application. The application of either WG or EC formulation in head lettuce under greenhouse conditions led to comparable residue levels of dimethomorph on Day 3 after the last application.

Table 3 Residues of dimethomorph in head lettuce grown in open fields in Southern Europe

Location, Year (Variety)	Application					DALA	Residue (mg/kg)	Report No. Trial No.
	Form.	kg ai/ha	n	Interval days	BBCH			
GAP, Italy		0.144	3	7		PHI, 3 days		
Rhône-Alpes France 2005 (Iraza)	EC	0.18	3	7	47-49	0	2.4	2006/1037827 FBD/12/05
						3	1.3	
						7	1.2	
Andalucia, Spain 2005 (Filipus)	EC	0.18	3	7	47-49	0	2.9	2006/1037827 ALO/23/05
						3	0.85	
						7	0.50	
Macedonia, Greece 2005 (Romana)	EC	0.18	3	7	47-49	0	4.9	2006/1037827 GRE/11/05
						3	0.33	
						8	0.13	
Piedmonte, Italy 2005 (Ballerina)	EC	0.18	3	7	47-49	0	3.8	2006/1037827 ITA/14/05
						3	0.16	
						7	0.080	
Midi-Pyrénées, France 2006 (Nobellan)	EC	0.18	3	7	47-49	0	2.8	2007/1016463 A6015 TL1
						3	0.14	
						7	0.040	
Catalunya (Barcelona), Spain 2006 (Maravilla)	EC	0.18	3	7	47-49	0	3.1	2007/1016463 A6015 ES1
						2	1.2	
						7	0.02	
Piedmonte, Italy 2006 (Kavir)	EC	0.18	3	7		0	4.1	2007/1016463 A6015 IT1
						3	0.36	
						7	< 0.01	
Imathia, Macedonia, Greece 2006 (Serious)	EC	0.18	3	7	47-49	0	3.9	2007/1016463 A6015 GR1
						3	0.27	
						6	0.13	

Table 4 Residues of dimethomorph in head lettuce grown in greenhouse in Southern Europe previously submitted to 2007 JMPR

Location, Year (Variety)	Application					DALA	Residue (mg/kg)	Report No. Trial No.
	Form.	kg ai/ha	n	Interval days	BBCH			
GAP, Italy		0.144	3	7		PHI, 3 days		
Andalucia, Spain 2004 (Filipus)	WG	0.18	3	7	47	0	4.3	2005/1016643 04ES/013R

Location, Year (Variety)	Application					DALA	Residue (mg/kg)	Report No. Trial No.
	Form.	kg ai/ha	n	Interval days	BBCH			
						3	4.0	
						7	1.3	
Andalucia, Spain 2004 (Caralu)	WG	0.18	3	7	47	0	4.6	2005/1016643 04ES/014R
						3	4.5	
						7	2.3	
Marche, Italy 2004 (Ramora)	WG	0.18	3	7	48-50	0	7.1	2005/1016643 04IT/015R
						3	6.9	
						8	7.1	
Lazio, Italy 2004 (Cassiopea)	WG	0.18	3	7	45-48	0	3.6	2005/1016643 04IT/016R
						3	0.79	
						7	0.31	
Andalucia, Seville, Spain 2005 (Carolu)	WG	0.18	3	7	48-49	0	2.7	2005/1027640 05ES/013R <sup>a</sup>
						3	2.2	
						7	0.13	
	EC	0.18	3	7	48-49	0	3.1	
						3	2.8	
						7	0.77	
Marche, Ascoli Piceno, Italy, 2005 (Romana)	WG	0.18	3	7	45-49	0	1.5	2005/1027640 05IT/014R <sup>a</sup>
						3	1.4	
						7	1.2	
	EC	0.18	3	7	45-49	0	2.3	
						3	1.9	
						7	1.7	
Macedonia, Thessaloniki, Greece 2005 (Black seeded Simpson)	WG	0.18	3	7	48-49	0	4.2	2005/1027640 05GR/015R <sup>a</sup>
						3	2.3	
						7	1.3	
	EC	0.18	3	7	48-49	0	2.7	
						3	3.3	
						7	0.86	
Macedonia, Thessaloniki, Greece 2005 (Romain Paris island)	WG	0.18	3	7	48-50	0	2.2	2005/1027640 05GR/016R <sup>a</sup>
						3	2.1	
						7	0.86	
	EC	0.18	3	7	48-50	0	2.9	
						3	2.8	
						7	1.1	

<sup>a</sup> The results were not suitable for an assessment due to insufficient mean procedural analytical recoveries (< 70%).

## Dimethomorph

*Leaf lettuce*

Nine field trials were conducted in the USA during the growing season 2008. These trials were submitted previously to the 2014 Meeting. Dimethomorph (SC, 250 g/L) was applied three times as a foliar broadcast spray with a spray interval of 4–8 days. The growth stage for the applications varied from vegetative stage until BBCH 49. Duplicate samples of mature leaves were sampled and analysed with LC-MS/MS using Method 575/0. The LOQ was 0.01 mg/kg and the mean recovery 75% at fortification levels from 0.01–20.0 mg/kg.

Table 5 Residues of dimethomorph in leaf lettuce grown in open field in the USA previously submitted to 2014 JMPR

Location, Year (variety)	Form	Application			DALA	Residue (mg/kg)		Report No. Trial No.
		kg ai/ha	Growth stage at last treatment	no		Individual value	Mean	
GAP, Italy		0.144		3	PHI, 3 days			
USA (GA) 2008 (Italian Isher)	SC	0.225		3	0 1 3 7 10	6.05, 5.60 1.31, 1.25 0.46, 0.39 0.18, 0.14 0.05, 0.07	5.8 1.3 <u>0.43</u> 0.16 0.60	2009/7003324 RCN R080215
USA (FL) 2008 (Bibb)	SC	0.225	vegetative	3	0 1 3 7 10	4.78, 5.60 4.48, 4.29 2.52, 2.41 0.93, 0.55 0.34, 0.23	5.2 4.4 <u>1.3</u> 0.74 0.29	2009/7003324 RCN R080216
USA (WI) 2008 (Black Seeded Simpson)	SC	0.225	vegetative	3	0 1 3 7 10	10.42 <sup>c</sup> , 9.11 <sup>c</sup> 7.38, 7.81 1.22, 1.17 0.43, 0.51 0.20, 0.27	9.8 7.6 <u>1.2</u> 0.47 0.24	2009/7003324 RCN R080217
USA (QC) 2008 (Great Leak)	SC	0.225	BBCH 49 (typical leaf mass reached)	3	0 1 3 7 10	3.69, 3.67 0.47, 0.41 0.26, 0.26 0.16, 0.16 0.11, 0.11	3.7 0.44 <u>0.26</u> 0.16 0.11	2009/7003324 RCN R080218
USA (CA) 2008 (Tohema)	SC	0.225	mature	3	0 1 3 7 10	10.53, 9.22 8.68, 10.7 8.92, 9.81 9.24, 10.09 5.94, 6.85	9.9 9.7 9.4 <u>9.7</u> 6.4	2009/7003324 RCN R080219
USA (CA) 2008 (Salad Bowl)	SC	0.225	24 leaves	3	0 1 3 7 10	2.15, 2.04 3.48, 2.44 2.20, 3.11 1.09, 0.91 0.7 <sup>c</sup> , 0.36 <sup>c</sup>	2.1 3.0 <u>3.2</u> 1.0 0.53	2009/7003324 RCN R08020
USA (CA) 2008 (Butter Crunch)	SC	0.225	7–9 leaves	3	0 1 3 7 10	3.44, 3.29 2.85, 2.83 2.43, 2.67 1.67, 1.35 0.48, 0.50	3.4 2.8 <u>2.6</u> 1.0 0.49	2009/7003324 RCN R08021
USA (CA) 2008 (Sunbelt)	SC	0.225	8–11 leaves	3	0 1 3 7 10	4.68, 4.53 3.56, 3.60 0.47, 0.43 0.09, 0.08 0.06, 0.05	4.6 3.6 <u>0.45</u> 0.09 0.55	2009/7003324 RCN R08022
USA (OR) 2008 (Red Sails)	SC	0.225	BBCH 49 (typical leaf mass reached)	3	0 1 3 7 10	5.10, 5.66 3.52, 3.66 0.95, 1.23 0.58, 0.57 0.37, 0.56	5.4 3.6 <u>1.1</u> 2.6 0.37	2009/7003324 RCN R08023

*Corn salad (Lamb's lettuce)*

During the growing seasons 2005 and 2006, four trials were conducted in Southern Europe on open field lettuce (Report No., 2006/1037827 and 2007/1016463). The EC formulation (72 g/L + 40 g/L of pyraclostrobin) was applied (foliar) three times at a rate of 0.18 kg ai/ha of dimethomorph beginning about 17 ( $\pm$ 1) days before expected harvest with a spray interval of 7 days. The spray volume used was 400 L/ha. In all trials 50 to 100 g leaves were collected on Day 0, 2–4 and on Day 6–8 after the last application (DALA).

Table 6 Residues of dimethomorph in lamb's lettuce grown in open field in Southern Europe

Location, Year (Variety)	Application					DALA	Residue (mg/kg)	Report No. Trial No.
	Form.	kg ai/ha	n	Interval days	BBCH			
GAP, Italy		0.144	3	7		PHI = 3 days		
Rhône-Alpes, France 2005 (Macholong)	EC	0.18	3	7	47–49	0	4.8	2006/1037827 FBD/13/05
						4	0.37	
						7	0.26	
Piedmonte, Italy 2005 (Gigante D'Olanda)	EC	0.18	3	7	47–49	0	4.0	2006/1037827 ITA/15/05
						3	0.35	
						7	0.10	
Catalunya (Girona), Spain 2006 (Cirilla)	EC	0.18	3	7	47–49	0	4.3	2007/1016463 A6015 ES2
						4	3.5	
						6	2.5	
Rhône Valley, France 2006 (Macholong)	EC	0.18	3	7	47–49	0	8.8	2007/1016463 A6015 BD1
						2	9.7	
						8	1.2	

During the growing season 2005, three trials were conducted under greenhouse conditions (Report No., 2005/1027640). These trials were previously evaluated by 2007 JMPR. A WG formulation of dimethomorph (12% + 6.7% of pyraclostrobin) was applied (foliar) three times at a rate of 0.18 kg ai/ha to lamb's lettuce beginning about 17 days before expected harvest with a spray interval of 7 days. The spray volume used was 400 L/ha. In a bridging study, the set of three trials conducted with WG formulation was compared to the formulation EC (72 g/L). In all trials lettuce specimen were collected on Day 0, 3, and on Day 7 after the last application. The application of either WG or EC formulation in lamb's lettuce under greenhouse conditions led to comparable residue levels of dimethomorph on Day 3 after the last application

Table 7 Residues of dimethomorph in lamb's lettuce grown in greenhouse in Southern Europe previously submitted to 2007 JMPR

Location, Year (Variety)	Application					DALA	Residue (mg/kg)	Report No. Trial No.
	Form.	kg ai/ha	n	Interval days	BBCH			
GAP, Italy		0.144	3	7		PHI, 3 days		
Andalucia, Sevilla, Spain 2005 (Seme Piccolo)	WG	0.18	3	7	45–49	0	13	2005/1027640 05ES/017R <sup>a</sup>
						3	9.3	
						7	5.3	

## Dimethomorph

Location, Year (Variety)	Application					DALA	Residue (mg/kg)	Report No. Trial No.
	Form.	kg ai/ha	n	Interval days	BBCH			
	EC	0.18	3	7	45-49	0	12	
						3	9.8	
						7	7.1	
Abruzzo, Teramo, Italy 2005 (Verte de Cambrai)	WG	0.18	3	7	46-48	0	7.6	2005/1027640 05IT/018R <sup>a</sup>
						3	6.8	
						7	0.79	
	EC	0.18	3	7	46-48	0	11	
						3	6.5	
						7	0.79	
Marche, Ascoli Piceno, Italy 2005 (Verte de Cambrai)	WG	0.18	3	7	46-48	0	11	2005/1027640 05IT/019R <sup>a</sup>
						3	7.7	
						7	1.9	
	EC	0.18	3	7	46-48	0	29	
						3	10	
						7	4.8	

<sup>a</sup> The results were not suitable for an assessment due to insufficient mean procedural analytical recoveries (< 70%).

## APPRAISAL

Dimethomorph was first evaluated by JMPR in 2007 (T, R) and subsequently evaluated in 2014 for residues. The 2007 Meeting established an ADI of 0–0.2 mg/kg bw and an ARfD of 0.6 mg/kg bw, and defined the residue (for compliance with the MRL and for the estimation of dietary intake) for plant and animal commodities as dimethomorph (sum of isomers).

In the 2014 Meeting, a short-term dietary intake concern for children from consumption of leaf lettuce was identified and the 47<sup>th</sup> Session of the CCPR (2015) scheduled the evaluation of an alternative GAP and of additional MRLs for dimethomorph by 2016 JMPR. This Meeting re-considered residue trials on lettuce using provided and previous information.

**Methods of analysis**

Method 575/0 or 535/1 was used in lettuce residue trials. In contrast to previous JMPR Meetings, it was noted that in some supervised field trials used for the analysis of samples from greenhouse trials (Ref. 2005/1027640) the method used gave inadequate mean procedural analytical recoveries (< 70%) for head lettuce and lambs lettuce. The results from these trials were not suitable for an assessment.

Validation data reported in all other supervised field trial study reports demonstrated acceptable analytical recoveries and were considered suitable for the determination of dimethomorph in various plant matrices.

**Stability of pesticide residues in stored analytical samples**

In all residue trials, the samples were stored at below -18 °C until analysis within a storage period known as stable up to 18–24 months in crops.

***Results of supervised residue trials on crops***

The Meeting received the Italian GAP and the supporting lettuce residue trials (head lettuce and lambs lettuce) cultivated in outdoor and under greenhouse conditions. The greenhouse trials were evaluated by 2007 JMPR and re-submitted to this Meeting. Leaf lettuce trials were not submitted.

This Meeting re-evaluated residue trial data on lettuce (head, lambs and leaf) against Italy GAP, using newly and previously submitted data.

***Leafy vegetables (including Brassica leafy vegetables)******Lettuce, Head***

Eight field trials and four greenhouse trials from Southern European countries matched Italian GAP ( $3 \times 0.144$  kg ai/ha on a 7-10 day interval and with a 3-day PHI).

The residues in outdoor head lettuce were (n = 8): 0.14, 0.16, 0.27, 0.33, 0.36, 0.85, 1.2 and 1.3 mg/kg.

The residues in greenhouse head lettuce were (n = 4): 0.79, 4.0, 4.5 and 7.1 mg/kg.

Based on the residues observed in the field and the greenhouse lettuce trials, the greenhouse trials resulted in the highest residues (7.1 mg/kg). As there were only four greenhouse trials reflecting the critical GAP in Italy, the Meeting considered these trials insufficient to recommend a maximum residue level for head lettuce.

***Lettuce, Leaf***

No new residue data supporting the Italian GAP were submitted. The Meeting considered the global data approach and decided to use residue data from the US supporting the GAP. Nine trials of eighteen outdoor trials from USA (evaluated by 2014 Meeting) could be scaled to match the Italian GAP ( $3 \times 0.144$  kg ai/ha on a 7-10 day interval and with a 3-day PHI). The trials were carried out at a higher rate of 0.225 kg ai/ha and then a scaling factor of 0.64 was used to estimate a maximum residue level.

The residues in outdoor leaf lettuce were (n = 9): 0.26, 0.43, 0.45, 1.1, 1.2, 1.3, 2.6, 3.2 and 9.7 mg/kg. The scaled residues were: 0.17, 0.28, 0.29, 0.70, 0.77, 0.83, 1.7, 2.0 and 6.2 mg/kg.

The Meeting estimated a maximum residue level of 9 mg/kg, an STMR of 0.77 mg/kg and an HR of 6.2 mg/kg.

***Corn salad (Lambs lettuce)***

Four new outdoor trials and three greenhouse trials from Southern European countries matched the Italian GAP ( $3 \times 0.144$  kg ai/ha on a 7-10 day interval and with a 3-day PHI).

The residues in outdoor Lambs lettuce were (n = 4): 0.35, 0.37, 3.5 and 9.7 mg/kg.

For the greenhouse Lambs lettuce trials, inadequate analytical recoveries were observed (< 70%). Therefore, residues found (6.8, 9.8 and 10 mg/kg) probably underestimated the actual residues.

Noting the use of dimethomorph on greenhouse Lambs lettuce is the critical GAP for Italy, the Meeting considered these greenhouse trials insufficient upon which to base a maximum residue level recommendation for Lambs lettuce.

***Residues in animal commodities***

No feed items were evaluated by the present Meeting.



## RECOMMENDATIONS

On the basis of the data from supervised trials the Meeting concluded that the residue level listed in Annex 1 is appropriate for establishing a maximum residue limit and for IEDI and IESTI assessment.

Definition of the residue (for compliance with the MRL and for estimation of dietary intake) for plant and animal commodities: *dimethomorph (sum of isomers)*

*The residue is not fat soluble.*

Commodity		Recommended Maximum residue level (mg/kg)		STMR or STMR-P (mg /kg)	HR, HR-P, highest residue (mg /kg)
CCN	Name	New	Previous		
VL 0483	Lettuce, Leaf	9	20	0.80	6.2

## DIETARY RISK ASSESSMENT

### *Long-term dietary exposure*

The International Estimated Daily Intakes (IEDIs) of dimethomorph were calculated for the 17 GEMS/Food cluster diets using STMRs/STMR-Ps estimated by the current and previous Meeting. The results are shown in Annex 3 to the 2016 JMPR Report.

The ADI is 0–0.2 mg/kg bw and the calculated IEDIs were 0–2% of the maximum ADI. The Meeting concluded that the long-term dietary exposure to residues of dimethomorph resulting from the use considered by the JMPR is unlikely to present a public health concern.

### *Short-term dietary exposure*

The International Estimated Short Term Intakes (IESTIs) of dimethomorph were calculated for the food commodity using the HR estimated by the current Meeting. The results are shown in Annex 4 to the 2016 JMPR Report.

The ARfD is 0.6 mg/kg bw and the calculated IESTIs were 0–20% for general population and 0–60% for children. On the basis of the information provided, the Meeting concluded that the short-term dietary exposure to residues of dimethomorph, from uses considered by the Meeting is unlikely to present a public health concern.

## REFERENCES

Code	Author	Year	Title, Institute, Report reference
2005/1026082	Lehmann, A & Mackenroth, C	2005	Validation of the analytical method 575/0: Method for the determination of BAS 550 F (Dimethomorph) in plant matrices, BASF AG Agrarzentrum Limburgerhof, Limburgerhof, Germany Fed., GLP, Unpublished
2006/1039427	Mackenroth, C & Lehmann, A	2007	Validation of BASF method No. 535/1 in plant matrices, BASF AG Agrarzentrum Limburgerhof, Limburgerhof, Germany Fed., GLP, Unpublished
2006/1037827	Perny, A	2006	Study on the residue behaviour of dimethomorph and pyraclostrobin in head lettuce and lamb's lettuce after treatment with BAS 536 01 F under field conditions in Italy, Spain, Greece, and Southern France, 2005, Anadiag SA, Haguenu, France, GLP, Unpublished
2007/1016463	Perny, A	2007	Study on the residue behaviour of dimethomorph and pyraclostrobin in head lettuce and lamb's lettuce after treatment with BAS 536 01 F under field

Code	Author	Year	Title, Institute, Report reference
			conditions in Southern France, Italy, Spain and Greece, 2006, Anadiag SA, Haguenau, France, GLP, Unpublished
2005/1016643	Schroth, E	2005	Study on the residue behaviour of pyraclostrobin and dimethomorph (BAS 536 F) in head lettuce after application of BAS 536 00 F under greenhouse conditions in Spain and Italy, 2004, Agrologia SL, Palomares, Spain, GLP, Unpublished
2005/1027640	Schroth, E	2005	Study on the residue behaviour of pyraclostrobin and dimethomorph in head lettuce and lamb's lettuce after the application of BAS 536 00 F and BAS 536 01 F under greenhouse conditions in Spain, Italy and Greece, 2005, Agrologia SL, Palomares, Spain, GLP, Unpublished