

NUTREL/SIC

DOCUMENT M-CP, Section 6

EFFICACY DATA

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CP 6 EFFICACY DATA

Introduction

The hydrolysed protein is used as: a) a foliar spray in mixture with an insecticide, applied on some trees or some branches of trees in orchards and olive groves and b) as a bait for trapping of flies.

The NUTREL formulation product is used in agriculture as an attractant of Diptera in fruit trees (olives, pomme trees, stone trees, citrus, fig and walnut), kiwi and blueberries, in mixture with conventional insecticide/s.

In this dossier, the compound is used as a food attractant to insect pests. When applied in mixtures with insecticides, insects are attracted by the protein, and are eventually killed by the insecticide effect. In the case of mass trapping, insects are attracted to a trap from which they cannot escape.

The hydrolysed protein has a contact and residual action. Insects such as Olive-fly (*Bactrocera oleae*), Cherry fruit fly (*Rhagoletis cerasi*) and Mediterranean fruit fly (*Ceratitis capitata*) seem to be attracted to the hydrolysed protein by the volatile compounds associated with it. It is used in fields to control and suppress the population of Olive-fly, Cherry fruit fly and Mediterranean fruit fly by spot bait sprays in combination with an insecticide.

NUTREL is used in spot bait sprays to prevent the oviposition of Olive fly, Cherry fruit fly and Mediterranean fruit fly and the extensive damage to crops. It is also used to minimise the use of insecticides.

The maximum number of bait sprays applications against olive/cherry/fruit fly is normally four (1-2 applications during summer and 1-2 during autumn) but for "high risk" cases sometimes more. The timing of the first application is aiming at destroying the adults of previous year and preventing oviposition in the earliest fruits is of particular importance.

The NUTREL formulation product, which contains 378 g /L hydrolysed protein is an insect attractant for the control of control of Diptera insects.

The application rate is 1,2 L Nutrel/hL of water with 200 l wather/ha(equivalent to 2,4 l/ha of Nutrel and 907 g a.s./ha), in mixture with the normal dose rate of authorized insecticide. The distribution per tree depends on the number of plants per

CP 6.1 Preliminary Range-Finding Tests- Minimum effective Dose Tests

No preliminary range-finding tests have been undertaken, as the chemistry of the active ingredients is well understood and the formulated product have been widely registered and commercialised on a range of crops and pests for many years in Europe.

No specific minimum effective dose tests have been undertaken with Hydrolysed proteins, included in the active ingredients of chemistry. However, Hydrolysed Proteins have been evaluated in the field efficacy trials against a range of insect pests and crops. In many trials and against multiple insect pests, Hydrolysed Proteins was evaluated at various use rates including the currently registered rate (1N rate) and at reduced rates (0.5N-0.8N) in order to provide data in support of the proposed minimum dose.

In all these cases, the reduced rates of Hydrolysed Proteins were compared to an equivalent application rate of the reference product.

The aspect of minimum effective dose will therefore be discussed for each of the crop-insect pests combinations below.

The following table shows the equivalence between rate (g a.s./hl and g a.s./ha) of formulated at different concentrations.

Comparison between formulations at different concentrations, used in various EU countries.

Nutrel Hydrolysed proteins	g / L a.s.	rate ml/hl product	rate g a.s./hl	hl/ha	rate ml/ha product	rate g a.s./ha
Italy, Spain, Greece, Portugal, France		min max	min max	min max	min max	min max
	297	1010	300	1	1.010	300
	297	1010	300	2	2.020	600
	297	1500	446	1	1.500	446
	297	1500	446	2	3.000	891
	297	1684	500	1	1.684	500
	297	1684	500	2	3.368	1.000
Olive trees	300	1000	300	1	1.000	300
Pome fruits	300	1000	300	2	2.000	600
Stone fruits	300	1500	450	1	1.500	450
Walnut	300	1500	450	2	3.000	900
Citrus	300	1666	500	1	1.666	500
Fig	300	1666	500	2	3.332	1.000
Kiwi	378	794	300	1	794	300
Blueberries	378	794	300	2	1.588	600
	378	1200	454	1	1.200	454
	378	1200	454	2	2.400	907
	378	1323	500	1	1.323	500
	378	1323	500	2	2.646	1.000
	421	712	300	1	712	300

	421	712	300	2	1.424	600
	421	1100	463	1	1.100	463
	421	1100	463	2	2.200	926
	421	1188	500	1	1.188	500
	421	1188	500	2	2.376	1.000

Table shows dose equivalence between formulations with different concentrations.

Table shows the values of the GAP.

For all formulations: the value of the GAP is included from 300 g a.s./ha to 1000 g a.s./ha.

Table shows the values in the label.

e.g.,: Rate Nutrel 378 g/L is 2400 ml/ha with 2 hectolitres water/ha in all crops.

For Blueberries rate Nutrel 378 g/L is 1200 ml/ha with 1 hectolitre water/ha..

Table of the amount of product (Nutrel 378 g/l) per plant in function of the volume of water used, considering from 200 to 1000 plants per hectare.

Nutrel 378 g/l ml/ha	L solution./ Ha	Plants / Ha	L solution./ plant	ml product/ plant
2400	100	200	0,500	12,0
2400	200	200	1,000	12,0
2400	300	200	1,500	12,0
2400	100	300	0,333	8,0
2400	200	300	0,667	8,0
2400	300	300	1,000	8,0
2400	100	400	0,250	6,0
2400	200	400	0,500	6,0
2400	300	400	0,750	6,0
2400	100	450	0,222	5,3
2400	200	450	0,444	5,3
2400	300	450	0,667	5,3
2400	100	500	0,200	4,8
2400	200	500	0,400	4,8
2400	300	500	0,600	4,8
2400	100	600	0,167	4,0
2400	200	600	0,333	4,0
2400	300	600	0,500	4,0
2400	100	625	0,160	3,8
2400	200	625	0,320	3,8
2400	300	625	0,480	3,8
2400	100	700	0,143	3,4
2400	200	700	0,286	3,4
2400	300	700	0,429	3,4
2400	100	800	0,125	3,0
2400	200	800	0,250	3,0
2400	300	800	0,375	3,0
2400	100	900	0,111	2,7
2400	200	900	0,222	2,7
2400	300	900	0,333	2,7
2400	100	950	0,105	2,5
2400	200	950	0,211	2,5
2400	300	950	0,316	2,5
2400	100	1000	0,100	2,4
2400	200	1000	0,200	2,4
2400	300	1000	0,300	2,4

Table of the amount of product (Nutrel 297 g/l) per plant in function of the volume of water used, considering from 200 to 1000 plants per hectare.

Nutrel 297 g/l ml/ha	L solution./ Ha	Plants / Ha	L solution./ plant	ml product/ plant
3000	100	200	0,500	15,0
3000	200	200	1,000	15,0
3000	300	200	1,500	15,0
3000	100	300	0,333	10,0
3000	200	300	0,667	10,0
3000	300	300	1,000	10,0
3000	100	400	0,250	7,5
3000	200	400	0,500	7,5
3000	300	400	0,750	7,5
3000	100	450	0,222	6,7
3000	200	450	0,444	6,7
3000	300	450	0,667	6,7
3000	100	500	0,200	6,0
3000	200	500	0,400	6,0
3000	300	500	0,600	6,0
3000	100	600	0,167	5,0
3000	200	600	0,333	5,0
3000	300	600	0,500	5,0
3000	100	625	0,160	4,8
3000	200	625	0,320	4,8
3000	300	625	0,480	4,8
3000	100	700	0,143	4,3
3000	200	700	0,286	4,3
3000	300	700	0,429	4,3
3000	100	800	0,125	3,8
3000	200	800	0,250	3,8
3000	300	800	0,375	3,8
3000	100	900	0,111	3,3
3000	200	900	0,222	3,3
3000	300	900	0,333	3,3
3000	100	950	0,105	3,2
3000	200	950	0,211	3,2
3000	300	950	0,316	3,2
3000	100	1000	0,100	3,0
3000	200	1000	0,200	3,0
3000	300	1000	0,300	3,0

Table of the amount of product (Amadene 421 g/l) per plant in function of the volume of water used, considering from 200 to 1000 plants per hectare.

Amadene 421 g/l ml/ha	L solution./ Ha	Plants / Ha	L solution./ plant	ml product/ plant
2200	100	200	0,500	11,0
2200	200	200	1,000	11,0
2200	300	200	1,500	11,0
2200	100	300	0,333	7,3
2200	200	300	0,667	7,3
2200	300	300	1,000	7,3
2200	100	400	0,250	5,5
2200	200	400	0,500	5,5
2200	300	400	0,750	5,5
2200	100	450	0,222	4,9
2200	200	450	0,444	4,9
2200	300	450	0,667	4,9
2200	100	500	0,200	4,4
2200	200	500	0,400	4,4
2200	300	500	0,600	4,4
2200	100	600	0,167	3,7
2200	200	600	0,333	3,7
2200	300	600	0,500	3,7
2200	100	625	0,160	3,5
2200	200	625	0,320	3,5
2200	300	625	0,480	3,5
2200	100	700	0,143	3,1
2200	200	700	0,286	3,1
2200	300	700	0,429	3,1
2200	100	800	0,125	2,8
2200	200	800	0,250	2,8
2200	300	800	0,375	2,8
2200	100	900	0,111	2,4
2200	200	900	0,222	2,4
2200	300	900	0,333	2,4
2200	100	950	0,105	2,3
2200	200	950	0,211	2,3
2200	300	950	0,316	2,3
2200	100	1000	0,100	2,2
2200	200	1000	0,200	2,2
2200	300	1000	0,300	2,2

Table of the amount of insecticide used per plant in function of the volume of water used, considering from 200 to 1000 plants per hectare.

Karate Zeon g/ha	L solution./ Ha	Plants / Ha	L solution./ plant	g product/ plant
600	100	200	0,500	3,0
600	200	200	1,000	3,0
600	300	200	1,500	3,0
600	100	300	0,333	2,0
600	200	300	0,667	2,0
600	300	300	1,000	2,0
600	100	400	0,250	1,5
600	200	400	0,500	1,5
600	300	400	0,750	1,5
600	100	450	0,222	1,3
600	200	450	0,444	1,3
600	300	450	0,667	1,3
600	100	500	0,200	1,2
600	200	500	0,400	1,2
600	300	500	0,600	1,2
600	100	600	0,167	1,0
600	200	600	0,333	1,0
600	300	600	0,500	1,0
600	100	625	0,160	1,0
600	200	625	0,320	1,0
600	300	625	0,480	1,0
600	100	700	0,143	0,9
600	200	700	0,286	0,9
600	300	700	0,429	0,9
600	100	800	0,125	0,8
600	200	800	0,250	0,8
600	300	800	0,375	0,8
600	100	900	0,111	0,7
600	200	900	0,222	0,7
600	300	900	0,333	0,7
600	100	950	0,105	0,6
600	200	950	0,211	0,6
600	300	950	0,316	0,6
600	100	1000	0,100	0,6
600	200	1000	0,200	0,6
600	300	1000	0,300	0,6

Table of the amount of insecticide used per plant in function of the volume of water used, considering from 200 to 1000 plants per hectare.

Decis Jet ml/ha	L solution./ Ha	Plants / Ha	L solution./ plant	ml product/ plant
500	100	200	0,500	2,5
500	200	200	1,000	2,5
500	300	200	1,500	2,5
500	100	300	0,333	1,7
500	200	300	0,667	1,7
500	300	300	1,000	1,7
500	100	400	0,250	1,3
500	200	400	0,500	1,3
500	300	400	0,750	1,3
500	100	450	0,222	1,1
500	200	450	0,444	1,1
500	300	450	0,667	1,1
500	100	500	0,200	1,0
500	200	500	0,400	1,0
500	300	500	0,600	1,0
500	100	600	0,167	0,8
500	200	600	0,333	0,8
500	300	600	0,500	0,8
500	100	625	0,160	0,8
500	200	625	0,320	0,8
500	300	625	0,480	0,8
500	100	700	0,143	0,7
500	200	700	0,286	0,7
500	300	700	0,429	0,7
500	100	800	0,125	0,6
500	200	800	0,250	0,6
500	300	800	0,375	0,6
500	100	900	0,111	0,6
500	200	900	0,222	0,6
500	300	900	0,333	0,6
500	100	950	0,105	0,5
500	200	950	0,211	0,5
500	300	950	0,316	0,5
500	100	1000	0,100	0,5
500	200	1000	0,200	0,5
500	300	1000	0,300	0,5

Mass trapping: amount of product per hectare

Nutrel - Mass Trapping Hydrolysed proteins	g / L a.s.	Traps/ Ha	Nutrel ml/trap	Nutrel L/Ha	rate kg a.s./ha
Olive trees	297	115	250	28,750	8,5
Pome fruits, Stone fruits,					
Citrus	300	113	250	28,250	8,5
Walnut,					
Fig,					
Kiwi	378	90	250	22,500	8,5
Blueberries					
	421	81	250	20,250	8,5

Number plants per hectare

Crop	N° plants/ha	Remark
Walnut	300	(approx)
Kiwi fruit	400	
Olive	450	(approx)
Citrus	625	
Peach	800	(approx)
Cherry fruit	1000	(approx)
Blueberries	5000*	

**treated 6 plants per plot*

CP 6.2 Efficacy Tests - Evaluation Summaries

The efficacy trials presented in this Dossier were done in Italy that is representative country for the EU Southern zone.

The crops that have been examined are shown in the table above. The dose rates used are shown in the GAP table (Appendix 1). The target insect pests examined in these trials are shown in the GAP table (Appendix 1).

Sixteen studies were conducted in Italy during 2011 to 2012 (see table above).

The number of applications ranged from 2 to 4 according to the harmful insect pressure. The spray volume ranged from 190 to 210 L/ha (200 L/ha average) according to the vegetation development and number of plants per hectare.

For experimental reasons no more than four applications were done. In order to verify the efficacy in agreement with the GAP requirements, the summary tables were set to evaluate the short, mid and long-term effect. The short-effect was observed after 2 applications, the mid-term effect after the first 2 applications and the long-term after more than 4 applications.

For all the trials the efficacy was assessed by evaluating the parameters of % pest insect damage on fruits (fallen and plant with active infestation).

Details about the dose used in the single trials are reported in chapter “*Application methods*”.

In all trials, crop safety assessments were performed in efficacy trials to assess any effect on crop. No effect of phytotoxicity was observed.

All studies were conducted in accordance on the following EPPO Guidelines:

General guidelines followed:

EPPO Standard PP 1/135 (3): Phytotoxicity assessment.

EPPO Standard PP 1/152 (4): Design and analysis of efficacy evaluation trials.

EPPO Standard PP 1/181 (4): Conduct and reporting of efficacy evaluation trials including GEP.

Crop specific guidelines followed (i.e):

EPPO Standard PP 1/106 (2): *Ceratitis capitata* EPPO Standard PP 1/35 (2): *Rhagoletis cerasi*

EPPO Standard PP 1/108 (3): *Bactrocera oleae*

GEP and Testing facility or organization

To test the efficacy of Hydrolysed proteins in sixteen efficacy trials are presented in this dossier, conducted in Italy to 2011-2012 by officially recognized organisations in accordance with the principles of Good Experimental Practice (GEP).

CP 6.2.1 Peach (PRNPS) – *Ceratitis capitata* (CERTCA)

A total of 02 trials were performed in Peach under field conditions. Trials were conducted in the period between 2011 and 2012 in order to assess the direct efficacy (effectiveness) of Hydrolysed Proteins for the control of Mediterranean fruit fly (Medfly). A summary of the number of efficacy trials conducted by country is given below.

Sponsor Code: 20110401 I ITA P

Test Code: PC11 SCT 151
 Testing Facility: Biofarm - Caserta
 Culture: Peach (*Prunus persica*)
 Year: 2011
 Location: Vairano Patenora - Caserta (CE)
 Time For Use: BBCH: 72-75 → BBCH 85-89
 Type: 4 application at a distance of 20 days
 Size Area: 61,25 m²
 Sample Evaluated: 5 plants
 25 fruits/plant
 125 fruits/plot

Trial conducted on Peach var. Guglielmina Efficacy of NUTREL against <i>Ceratitis capitata</i> on Peach (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	20 DAT1 (BBCH 77-79)	20 DAT2 (BBCH 81-85)	20 DAT3 (BBCH 85-89)	10 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	9,8 a	13,2 a	14,4 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	85,7 c	87,9 c	86,1 d
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	81,6 c	83,3 c	81,9 cd
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	83,7 c	86,4 c	84,7 d
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	79,6 c	81,8 c	80,6 cd
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	59,2 b	62,1 b	63,9 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	63,3 b	65,2 b	66,7 bc
Type of assessment: (UTK)			% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 72-75: Pre-assessment and first application

Sponsor Code: 20110401 I ITA P
 Test Code: PC12 SCT 35
 Testing Facility: Biofarm - Caserta
 Culture: Peach (*Prunus persica*)
 Year: 2012
 Location: Vairano Patenora - Caserta (CE)
 Time For Use: BBCH: 72-75 → BBCH 85-89
 Type: 4 application at a distance on average of 21 days (AVG)
 Size Area: 61,25 m²
 Sample Evaluated: 5 plants
 25 fruits/plant
 125 fruits/plot

Trial conducted on Peach var. Guglielmina Efficacy of NUTREL against <i>Ceratitis capitata</i> on Peach (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	22 DAT1 (BBCH 77-79)	20 DAT2 (BBCH 81-85)	21 DAT3 (BBCH 85-89)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	10,8 a	15,0 a	17,0 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	83,3 c	85,3 c	85,9 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	79,6 c	81,3 c	82,4 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	81,5 c	84,0 c	84,7 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	77,8 c	80,0 c	81,2 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	57,4 b	61,3 b	61,2 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	61,1 b	64,0 b	64,7 bc
Type of assessment: (UTK)			% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 72-75: Pre-assessment and first application

CP 6.2.2 Sweet Cherry (PRNAV) – *Rhagoletis cerasi* (RHAGCE)

A total of 02 trials were performed in Sweet cherry under field conditions. Trials were conducted in the period between 2011 and 2012 in order to assess the direct efficacy (effectiveness) of Hydrolysed Proteins for the control of Cherry fruit fly. A summary of the number of efficacy trials conducted by country is given below.

Sponsor Code: 20110401 I ITA P
 Test Protocol: PC11 SCT 152
 Testing Facility: Biofarm - Caserta
 Culture: Sweet cherry (*Prunus avium*)

Year 2011
 Location S.Felice a Canello – Caserta (CE)
 Time For Use: BBCH: 72-75 → BBCH 85-89
 Type: 4 application at a distance on average of 21 days (AVG)
 Size Area: 52,50 m²
 Sample Evaluated: 5 plants
 30 fruits/plant
 150 fruits/plot

Trial conducted on Sweet cherry var. Ferrovia Efficacy of NUTREL against <i>Rhagoletis cerasi</i> on Cherry (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	22 DAT1 (BBCH 77-79)	20 DAT2 (BBCH 81-85)	21 DAT3 (BBCH 85-89)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	12,8 a	16,4 a	39,7 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	88,3 c	89,9 c	95,0 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	84,4 c	85,9 c	91,2 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	87,1 c	88,8 c	94,1 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	83,0 c	84,6 c	90,3 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	62,4 b	63,3 b	68,5 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	66,3 b	67,4 b	72,3 b
Type of assessment: (UTK)			% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 72-75: Pre-assessment and first application

Sponsor Code: 20110401 I ITA P
 Test Code : PC12 SCT 36
 Testing Facility: Biofarm - Caserta
 Culture: Sweet cherry (*Prunus avium*)
 Year 2012
 Location S.Felice a Cancelli – Caserta (CE)
 Time For Use: BBCH: 72-75 → BBCH 85-89
 Type: 4 application at a distance of 21 days
 Size Area: 52,50 m²
 Sample Evaluated: 5 plants
 30 fruits/plant
 150 fruits/plot

Trial conducted on Sweet cherry var. Ferrovia Efficacy of NUTREL against <i>Rhagoletis cerasi</i> on Cherry (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	21 DAT1 (BBCH 77-79)	21 DAT2 (BBCH 81-85)	21 DAT3 (BBCH 85-89)	19 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	16,0 a	18,5 a	34,4 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	87,5 c	88,2 c	92,2 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	83,1 c	84,6 c	88,4 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	86,4 c	87,4 c	91,2 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	82,2 c	83,9 c	87,4 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	62,4 b	63,1 b	66,5 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	65,4 b	66,6 b	69,9 b
Type of assessment: (UTK)			% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 72-75: Pre-assessment and first application

CP 6.2.3. Citrus sp. (CIDSS) – *Ceratitis capitata* (CERTCA)

A total of 04 trials were performed in Sweet orange (CIDS), Clementine (CIDCL) and Mandarin (CIDRE) under field conditions. Trials were conducted in the period between 2011 and 2012 in order to assess the direct efficacy (effectiveness) of Hydrolysed Proteins for the control of Mediterranean fruit fly (Medfly). A summary of the number of efficacy trials conducted by country is given below.

Sponsor Code: 20110401 I ITA P
 Test Code : PC11 SCT 155
 Testing Facility: Biofarm - Caserta
 Sweet orange (*Citrus aurantium* var. *sinensis*)
 Culture: Clementine (*Citrus clementina*)
 Mandarin orange (*Citrus reticulata*)
 Year 2011
 Location Macerata Campania – Caserta (CE)
 Time For Use: BBCH: 79-81 → BBCH 85-89
 Type: 4 application at a distance of 21 days
 Size Area: 80,0 m²
 Sample Evaluated: 5 plants
 30 fruits/plant
 150 fruits/plot

Trial conducted on Sweet orange (CIDS), Clementine (CIDCL) and Mandarin (CIDRE) var. Biondo comune, Monreal, Avana Efficacy of NUTREL against <i>Ceratitis capitata</i> on Citrus (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	21 DAT1 (BBCH 79-81)	21 DAT2 (BBCH 83-85)	21 DAT3 (BBCH 85-89)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	15,8 a	20,2 a	30,2 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	80.9 c	82,5 c	87,2 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	77,9 c	79,4 c	83,4 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	79.9 c	81,8 c	86,2 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	76,9 c	78,6 c	82,3 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	58.0 b	59,5 b	62,5 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	61,0 b	62,9 b	65,8 b
Type of assessment: (UTK)			% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 72-74: Pre-assessment and first application

Sponsor Code: 20110401 I ITA P
 Test Code : PC11 SCT 156
 Testing Facility: Biofarm - Caserta

Culture: Sweet orange (*Citrus aurantium* var. *sinensis*)
 Year: 2011
 Location: San Prisco – Caserta (CE)
 Time For Use: BBCH: 79-81 → BBCH 85-89
 Type: 4 application at a distance of 21 days
 Size Area: 80,0 m²
 Sample Evaluated: 5 plants
 30 fruits/plant
 150 fruits/plot

BBCH 72-74: Pre-assessment and first application

Trial conducted on Sweet orange (CIDS) var. Washington Navel Efficacy of NUTREL against <i>Ceratitidis capitata</i> on Citrus (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	21 DAT1 (BBCH 79-81)	21 DAT2 (BBCH 83-85)	21 DAT3 (BBCH 85-89)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	14,7 a	19,0 a	35,7 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	80,7 c	81,6 c	87,4 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	77,3 c	78,1 c	83,6 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	79,6 c	80,6 c	86,4 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	76,0 c	77,2 c	82,7c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	56,9 b	57,8 b	62,6 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	60,3 bc	61,4 bc	65,8 b
Type of assessment: (UTK)			% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

Sponsor Code: 20110401 I ITA P
 Test Code : PC12 SCT 40
 Testing Facility: Biofarm - Caserta
 Culture: Sweet orange (*Citrus aurantium* var. *sinensis*)
 Year: 2012
 Location: S. Prisco – Caserta (CE)
 Time For Use: BBCH: 79-81 → BBCH 85-89
 Type: 4 application at a distance of 21 days
 Size Area: 80,0 m²

Trial conducted on Sweet orange (CIDS) var. Washington Navel Efficacy of NUTREL against <i>Ceratitidis capitata</i> on Citrus (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	21 DAT1 (BBCH 79-81)	21 DAT2 (BBCH 83-85)	21 DAT3 (BBCH 85-89)	14 DAT4 (BBCH 89)
Untreated	-	-	0,0 a	13,5 a	20,0 a	33,9 a

check						
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	74,3 b	75,0 b	83,8 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	70,4 b	71,6 b	80,4 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	72,8 b	74,1 b	82,8 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	69,1 b	70,8 b	79,3 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	53,1 b	54,3 b	60,1 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	55,6 b	56,6 b	63,5 b
Type of assessment: (UTK)			% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 72-74: Pre-assessment and first application

Sponsor Code: 20110401 I ITA P
 Test Code : PC12 SCT 41
 Testing Facility: Biofarm - Caserta
 Sweet orange (*Citrus aurantium* var. *sinensis*)
 Culture: Clementine (*Citrus clementina*)
 Mandarin orange (*Citrus reticulata*)
 Year 2012
 Location Macerata Campania – Caserta (CE)
 Time For Use: BBCH: 79-81 → BBCH 85-89
 Type: 4 application at a distance of 21 days
 Size Area: 80,0 m²
 Sample Evaluated: 5 plants
 30 fruits/plant
 150 fruits/plot

Trial conducted on Sweet orange (CIDSi), Clementine (CIDCL) and Mandarin (CIDRE) var. Biondo comune, Monreal, Avana Efficacy of NUTREL against <i>Ceratitis capitata</i> on Citrus (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	21 DAT1 (BBCH 79-81)	21 DAT2 (BBCH 83-85)	21 DAT3 (BBCH 85-89)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	17,9 a	23,2 a	34,3 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	73,8 b	76,2 c	80,1 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	71,0 b	73,3 c	76,8 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	73.0 b	75,5 c	79,1 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	70,2 b	72,7 c	75,7 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	53,4 b	54,6 b	57,3 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	56,2 b	57,6 bc	60,2 b
Type of assessment: (UTK)			% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 72-74: Pre-assessment and first application

CP 6.2.4 Olive (OLVEU) – *Bactrocera (Dacus) oleae* (DACUOL)

A total of 04 trials were performed in Olive trees under field conditions. Trials were conducted in the period between 2011 and 2012 in order to assess the direct efficacy (effectiveness) of Hydrolysed Proteins for the control of Olive fruit fly. A summary of the number of efficacy trials conducted by country is given below.

Sponsor Code: 20110401 I ITA P
 Test Code : PC11 SCT 154
 Testing Facility: Biofarm - Caserta
 Culture: Olive (*Olea europaea*)
 Year 2011
 Location Vasto - Chieti (CH)
 Time For Use: BBCH: 75 → 89
 Type: 4 application at a distance of 20 days
 Size Area: 112,50 m²
 Sample Evaluated: 5 plants
 50 fruits/plant
 250 fruits/plot

Trial conducted on Olive trees var. Leccino Efficacy of NUTREL against <i>Bactrocera (Dacus) oleae</i> on Olive (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	20 DAT1 (BBCH 79)	20 DAT2 (BBCH 85)	20 DAT3 (BBCH 89)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	6,8 a	13,9 a	29,8 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	76,5 b	79,9 c	88,9 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	73,5 b	77,0 c	85,2 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	75,0 b	79,1 c	87,9 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	72,1 b	76,3 c	84,2 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	54,4 b	57,6 b	63,8 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	57,4 b	60,4 b	67,1 b
Type of assessment: (UTK)			% of damaged fruit by Olive fruit fly	% of damaged fruit by Olive fruit fly	% of damaged fruit by Olive fruit fly	% of damaged fruit by Olive fruit fly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 75: Pre-assessment and first application

Sponsor Code: 20110401 I ITA P
 Test Code : PC11 SCT 157
 Testing Facility: Biofarm - Caserta
 Culture: Olive (*Olea europaea*)
 Year 2011
 Location San Prisco - Caserta (CE)
 Time For Use: BBCH: 75 → 89
 Type: 4 application at a distance of 20 days
 Size Area: 112,50 m²
 Sample Evaluated: 5 plants
 50 fruits/plant
 250 fruits/plot

Trial conducted on Olive trees var. Oliva Caiazzana Efficacy of NUTREL against <i>Bactrocera (Dacus) oleae</i> on Olive (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	20 DAT1 (BBCH 79)	20 DAT2 (BBCH 85)	20 DAT3 (BBCH 89)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	8,4 a	15,7 a	24,8 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	75,0 b	79,0 c	83,1 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	71,4 b	75,8 c	79,8 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	73,8 b	78,3 c	82,3 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	70,2 b	75,2 c	79,0 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	53,6 b	56,7 b	60,1 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	56,0 b	59,9 b	63,3 b
Type of assessment: (UTK)			% of damaged fruit by Olive fruit fly	% of damaged fruit by Olive fruit fly	% of damaged fruit by Olive fruit fly	% of damaged fruit by Olive fruit fly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 75: Pre-assessment and first application

Sponsor Code: 20110401 I ITA P
 Test Code : PC12 SCT 38
 Testing Facility: Biofarm - Caserta
 Culture: Olive (*Olea europaea*)
 Year 2012
 Location Vasto - Chieti (CH)
 Time For Use: BBCH: 75 → 89
 Type: 4 application at a distance of 21 days
 Size Area: 112,50 m²
 Sample Evaluated: 5 plants
 50 fruits/plant
 250 fruits/plot

Trial conducted on Olive trees var. Leccino Efficacy of NUTREL against <i>Bactrocera (Dacus) oleae</i> on Olive (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	21 DAT1 (BBCH 79)	21 DAT2 (BBCH 85)	21 DAT3 (BBCH 89)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	13,0 a	18,2 a	36,7 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	76,9 b	78,0 c	87,2 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	73,8 b	74,7 c	83,7 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	76,2 b	76,9 c	86,4 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	73,1 b	74,2 c	82,8 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	55,4 b	56,6 b	62,9 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	58,5 b	59,3 b	66,2 b
Type of assessment: (UTK)			% of damaged fruit by Olive fruit fly	% of damaged fruit by Olive fruit fly	% of damaged fruit by Olive fruit fly	% of damaged fruit by Olive fruit fly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 75: Pre-assessment and first application

Sponsor Code: 20110401 I ITA P
 Test Code : PC12 SCT 39
 Testing Facility: Biofarm - Caserta
 Culture: Olive (*Olea europaea*)
 Year 2012
 Location San Prisco - Caserta (CE)
 Time For Use: BBCH: 75 → 89
 Type: 4 application at a distance of 21 days
 Size Area: 112,50 m²
 Sample Evaluated: 5 plants
 50 fruits/plant
 250 fruits/plot

Trial conducted on Olive trees var. Oliva Caiazzana Efficacy of NUTREL against <i>Bactrocera (Dacus) oleae</i> on Olive (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	21 DAT1 (BBCH 79)	21 DAT2 (BBCH 85)	21 DAT3 (BBCH 89)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	10,1 a	17,1 a	34,5 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	76,2 c	78,9 c	87,2 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	73,3 c	76,0 c	83,8 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	75,2 c	78,4 c	86,4 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	72,3 c	75,4 c	82,9 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	54,5 b	57,3 b	62,9 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	57,4 b	60,2 b	66,4 b
Type of assessment: (UTK)			% of damaged fruit by Olive fruit fly	% of damaged fruit by Olive fruit fly	% of damaged fruit by Olive fruit fly	% of damaged fruit by Olive fruit fly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 75: Pre-assessment and first application

CP 6.2.5 Walnut (IUGRE) – *Rhagoletis completa* (RHAGCO)

A total of 02 trials were performed in Walnut trees under field conditions. Trials were conducted in the period between 2011 and 2012 in order to assess the direct efficacy (effectiveness) of Hydrolysed Proteins for the control of Walnut husk fly. A summary of the number of efficacy trials conducted by country is given below.

Sponsor Code: 20110401 I ITA P
 Test Code : PC11 SCT 153
 Testing Facility: Biofarm - Caserta
 Culture: Common walnut (*Juglans regia*)
 Year 2011
 Location S:Felice a Cancelli - Caserta (CE)
 Time For Use: BBCH: 77-78 → 85-87
 Type: 4 application at a distance of 21 days
 Size Area: 180 m²
 Sample Evaluated: 5 plants
 55 fruits/plant
 275 fruits/plot

Trial conducted on Walnut tree trees var. Sorrento Efficacy of NUTREL against <i>Rhagoletis completa</i> on Walnut (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	21 DAT1 (BBCH 78-79)	21 DAT2 (BBCH 81-83)	21 DAT3 (BBCH 85-87)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	8,0 a	16,6 a	33,0 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	77,3 b	79,6 c	88,7 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	73,8 b	76,4 bc	85,2 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	76,0 b	78,5 c	87,9 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	72,9 b	75,2 bc	84,3 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	54,8 b	57,7 b	64,2b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	58,3 b	60,6 bc	67,4 b
Type of assessment: (UTK)			% of damaged fruit by Walnut husk fly	% of damaged fruit by Walnut husk fly	% of damaged fruit by Walnut husk fly	% of damaged fruit by Walnut husk fly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 77-78: Pre-assessment and first application

Sponsor Code: 20110401 I ITA P
 Test Code : PC12 SCT 37
 Testing Facility: Biofarm - Caserta
 Culture: Common walnut (*Juglans regia*)
 Year: 2012
 Location: S:Felice a Cancellio - Caserta (CE)
 Time For Use: BBCH: 77-78 → 85-87
 Type: 4 application at a distance of 21 days
 Size Area: 180 m²
 Sample Evaluated: 5 plants
 55 fruits/plant
 275 fruits/plot

Trial conducted on Walnut tree trees var. Sorrento Efficacy of NUTREL against <i>Rhagoletis completa</i> on Walnut (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	21 DAT1 (BBCH 78-79)	21 DAT2 (BBCH 81-83)	21 DAT3 (BBCH 85-87)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	8,7 a	20,4 a	38,8 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	75,7 b	76,3 c	86,4 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	72,5 b	73,2 c	82,9 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	74,6 b	75,6 c	85,4 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	71,7 b	72,2 c	82,0 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	53,5 b	55,4 b	62,2 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	56,9 b	58,1 b	65,5 b
Type of assessment: (UTK)			% of damaged fruit by Walnut husk fly	% of damaged fruit by Walnut husk fly	% of damaged fruit by Walnut husk fly	% of damaged fruit by Walnut husk fly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 77-78: Pre-assessment and first application

CP 6.2.6 Kiwi fruit (ATICH) – *Ceratitidis capitata* (CERTCA)

A total of 01 trial is performed in Kiwi trees under field conditions. Trials were conducted in the period 2012 in order to assess the direct efficacy (effectiveness) of Hydrolysed Proteins for the control of Mediterranean fruit fly (Medfly). A summary of the number of efficacy trial conducted by country is given below.

Sponsor Code: 20110401 I ITA P
 Test Code : PC12 SCT 47
 Testing Facility: Biofarm - Caserta
 Culture: Chinese kiwi, Summer kiwi (*Actinidia chinensis*)
 Year 2012
 Location Pastorano - Caserta (CE)
 Time For Use: BBCH: 75-77 → 85-89
 Type: 4 application at a distance of 21 days
 Size Area: 125 m²
 Sample Evaluated: 5 plants
 25 fruits/plant
 125 fruits/plot

Trial conducted on Kiwi fruit var. Hayward Efficacy of NUTREL against <i>Ceratitidis capitata</i> on Kiwi (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	21 DAT1 (BBCH 79-81)	21 DAT2 (BBCH 83-85)	21 DAT3 (BBCH 85-89)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	14,6 a	19,4 a	25,4 a
Nutrel 378 g/L & Karate Zeon 1.5	2400 600	907 9.0	0,0 a	79,5 c	82,5 c	83,5 c
Nutrel 378 g/L & Decis Jet	2400 500	907 7.5	0,0 a	75,3 c	79,4 c	80,3 c
Amadene 421 g/L & Karate Zeon 1.5	2200 600	926 9.0	0,0 a	78,1 c	81,4 c	82,7 c
Amadene 421 g/L & Decis Jet	2200 500	926 7.5	0,0 a	74,0 c	78,4 c	79,5 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	56,2 b	59,8 b	60,6 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	58,9 b	62,9 b	63,0 b
Type of assessment: (UTK)			% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 75-77: Pre-assessment and first application

CP 6.2.7 Blueberries (VACCO) – *Ceratitis capitata* (CERTCA)

A total of 01 trial is performed in Blueberries under field conditions. Trials were conducted in the period 2012 in order to assess the direct efficacy (effectiveness) of Hydrolysed Proteins for the control of Mediterranean fruit fly (Medfly). A summary of the number of efficacy trial conducted by country is given below.

Sponsor Code: 20110401 I ITA P
 Test Code : PC11 SCT 164
 Testing Facility: Biofarm – Caserta
 Culture: Blueberry (*Vaccinium corymbosum*)
 Year 2011
 Location S. Giorgio del Sannio - Benevento (BN)
 Time For Use: BBCH: 71-73 → 87-89
 Type: 4 application at a distance of 21 days
 Size Area: 60,0 m²
 Sample Evaluated: 5 plants
 40 fruits/plant
 200 fruits/plot

Trial conducted on Blueberries var. Jersey Efficacy of NUTREL against <i>Ceratitis capitata</i> on Small fruits (Active infestation)						
Product	Product rate ml/ha	Rate g i.a. /ha	21 DAT1 (BBCH 75-78)	21 DAT2 (BBCH 81-85)	21 DAT3 (BBCH 87-89)	14 DAT4 (BBCH 89)
Untreated check	-	-	0,0 a	9,1 a	11,9 a	19,6 a
Nutrel 378 g/L & Karate Zeon 1.5	1200 600	454 9.0	0,0 a	80,8 c	82,1 c	83,4 c
Nutrel 378 g/L & Decis Jet	1200 500	454 7.5	0,0 a	76,7 c	78,9 c	80,3 c
Amadene 421 g/L & Karate Zeon 1.5	1100 600	463 9.0	0,0 a	79,5 c	81,1 c	82,8 c
Amadene 421 g/L & Decis Jet	1100 500	463 7.5	0,0 a	75,3 c	77,9 c	79,6 c
Nutrel 378 g/L	22.5 L/ha	8500	0,0 a	57,5 b	58,9 b	60,5 b
Amadene 421 g/L	20.250 L/ha	8500	0,0 a	60,3 b	62,1 b	63,7 b
Type of assessment: (UTK)			% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly	% of damaged fruit by Medfly
Efficacy of evaluation:			% Abbott	% Abbott	% Abbott	% Abbott

BBCH 71-73: Pre-assessment and first application

CP 6.2.8 Summary of the trials

Summary of Two-year Tests

Crop (Number of trials)	Trial N° Testing Unit	Year	Testing Unit	Country	Sites (Postal code)	Guidelines EPPO	Sponsor code	Trials statuts	Comments
Stone Fruit									
Peach	PC11 SCT 151	2011	Biofarm	Italy	81058	PP1/135 (3), PP1/152 (4), PP1/181 (4) PP1/106 (2)	20110401 I ITA P	GEP	Foliar spray. Mass trapping
	PC12 SCT 35	2012			81058		20110401 I ITA P		
Cherry	PC11 SCT 152	2011	Biofarm	Italy	81027	PP1/135 (3), PP1/152 (4), PP1/181 (4) PP1/35 (2)	20110401 I ITA P	GEP	Foliar spray. Mass trapping
	PC12 SCT 36	2012			81027		20110401 I ITA P		
Citrus (Sweet orange)	PC11 SCT 156	2011	Biofarm	Italy	81054	PP1/135 (3), PP1/152 (4), PP1/181 (4) PP1/106 (2)	20110401 I ITA P	GEP	Foliar spray. Mass trapping
	PC12 SCT 40	2012			81054		20110401 I ITA P		
Citrus (Sweet orange Clementine Mandarin)	PC11 SCT 155	2011	Biofarm	Italy	81047	PP1/135 (3), PP1/152 (4), PP1/181 (4) PP1/106 (2)	20110401 I ITA P	GEP	Foliar spray. Mass trapping
	PC12 SCT 41	2012			81047		20110401 I ITA P		
Olive	PC11 SCT 154	2011	Biofarm	Italy	66054	PP1/135 (3), PP1/152 (4), PP1/181 (4) PP1/108 (3)	20110401 I ITA P	GEP	Foliar spray. Mass trapping
	PC11 SCT 157	2011			81054		20110401 I ITA P		
	PC12 SCT 38	2012			66054		20110401 I ITA P		
	PC12 SCT 39	2012			81054		20110401 I ITA P		
Walnut	PC11 SCT 153	2011	Biofarm	Italy	81027	PP1/135 (3), PP1/152 (4), PP1/181 (4) -	20110401 I ITA P	GEP	Foliar spray. Mass trapping

	PC12 SCT 37	2012		81027		20110401 I ITA P	
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Summary of Annual Trials

Crop (Number of trials)	Trial N° Testing Unit	Year	Testing Unit	Country	Sites (Postal code)	Guidelines EPPO	Sponsor code	Trials statuts	Comments
Kiwi Fruit	PC12 SCT 47	2012	Biofarm	Italy	81050	PP1/135 (3), PP1/152 (4), PP1/181 (4) PP1/106 (2)	20110401 I ITA P	GEP	Foliar spray. Mass trapping
Blueberries	PC11 SCT 164	2011	Biofarm	Italy	82018	PP1/135 (3), PP1/152 (4), PP1/181 (4) PP1/106 (2)	20110401 I ITA P	GEP	Foliar spray. Mass trapping

CP 6.2.9 Overall Summary and Conclusions of Efficacy Trials

Hydrolysed Proteins (NUTREL) are registered and commercialised in a number of European countries on a wide range of crops and insect pests.

This biological assessment dossier provides supportive evidence to the biological activity of Hydrolysed Proteins under conditions specific to the South European region.

Hydrolysed Proteins are recommended for use on many crops (see the table below).

Crop	Volumes hl/ha (max)	Application rate				Target pest
		Nutrel* (l/ha) (a.s. Kg/ha)	Decis Jet (l/ha)	Karate Zeon (l/ha)	Nutrel* Mass trapping (l/ha)	
Stone fruit 1 (Peach)	2	2,4 (0,907)	0,5	0,6	22,5	<i>Ceratitis capitata</i>
Stone fruit 2 (Peach)	2	2,4 (0,907)	0,5	0,6	22,5	<i>Ceratitis capitata</i>
Stone fruit 1 (Cherry)	2	2,4 (0,907)	0,5	0,6	22,5	<i>Rhagoletis cerasi</i>
Stone fruit 2 (Cherry)	2	2,4 (0,907)	0,5	0,6	22,5	<i>Rhagoletis cerasi</i>
Citrus (Sweet Orange) 1	2	2,4 (0,907)	0,5	0,6	22,5	<i>Ceratitis capitata</i>
Citrus (Sweet Orange) 2	2	2,4 (0,907)	0,5	0,6	22,5	<i>Ceratitis capitata</i>
Citrus 3 (Sweet Orange Clementine,Mandarin)	2	2,4 (0,907)	0,5	0,6	22,5	<i>Ceratitis capitata</i>
Citrus 4 (Sweet Orange Clementine,Mandarin)	2	2,4 (0,907)	0,5	0,6	22,5	<i>Ceratitis capitata</i>
Olive 1	2	2,4 (0,907)	0,5	0,6	22,5	<i>Bactrocera (Dacus) oleae</i>
Olive 2	2	2,4 (0,907)	0,5	0,6	22,5	<i>Bactrocera (Dacus) oleae</i>
Olive 3	2	2,4 (0,907)	0,5	0,6	22,5	<i>Bactrocera (Dacus) oleae</i>
Olive 4	2	2,4 (0,907)	0,5	0,6	22,5	<i>Bactrocera (Dacus) oleae</i>
Walnut 1	2	2,4 (0,907)	0,5	0,6	22,5	<i>Rhagoletis completa</i>
Walnut	2	2,4 (0,907)	0,5	0,6	22,5	<i>Rhagoletis completa</i>
Kiwi fruit	2	2,4 (0,907)	0,5	0,6	22,5	<i>Ceratitis capitata</i>
Blueberries	1	1,2 (0,454)	0,5	0,6	22,5	<i>Ceratitis capitata</i>

e.g., Nutrel 378 g/l - For the equivalence with formulated at different concentrations, see chapter 6.1..

Effects on other insect pests not have been recognized, although the Hydrolysed proteins are not specific (insects attractant).

Under a wide range of environmental conditions, insect pest pressures and crop-harmful insect combinations, NUTREL show a significant control of many insect pests (Diptera Tephritidae) compared to the untreated control, and being of a similar magnitude as that for the reference products used. These reference products were branded products from Diachem on the basis of Hydrolysed proteins 421 g/L.

In situations whereby Hydrolysed proteins Sicit 2000 SpA were compared to Diachem reference product(s), including on a rate-for-rate comparison, it was found that Hydrolysed proteins Sicit 2000 SpA possesses a similar biological activity.

Control shown by rates lower than the proposed label rate showed in general a reduced control. For some crop- insect pests combinations this reduced efficacy was statistically different to the proposed target rate, in other circumstances the difference was numerical. For reasons of pest epidemiology, potential harmful effect of the insect pests, required quality of the harvestable commodity or resistance management strategy, it is felt the proposed rates provides a correct balance between the aforementioned and the minimum effective dose.

Treatments were applied to all trials using an air assisted plant sprayer. Further details of the method of application used in individual trials can be found and in the individual trial reports.

Overall, it is therefore concluded that the proposed label claims for use of Hydrolysed Proteins on olive, stone fruits, pome fruits, citrus, kiwi fruit, walnut and small fruit, (blueberries), following repeated applications (2-4) for the control of a number of foliar insect pests (Diptera Tephritidae) is fully justified and supported.

CP 6.2.10 Summary form of information concerning trials sites and application details

Type of trials	Effectiveness (and crop safety) Southern Europe
Identity of the product under test	NUTREL (SL formulation of 378 g/L
Hydrolysed proteins)	
Crop:	All crop
Harmful organism	Tephritidae fruit-fly (Diptera, Adults)
Responsible body for reporting trial	See column 'testing unit'
Date of submission	Summer 2013

Trial reference	Testing unit	Crop Trial location	Test method, plot size	Application details			Growth stage crop (1 st and last application)	Remarks (Variety)
				Date (1 st and last), interval	Method, applic. amount	Applic. technique		
PC11 SCT 151	Biofarm srl	Peach Vairano Patenora Caserta (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/106 (2) 5 net trees per plot, 4 replic.	30/06/2011 29/08/2011 20 days	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 72-75 BBCH 85-89	Guglielmina

Trial reference	Testing unit	Crop Trial location	Test method, plot size	Application details			Growth stage crop (1 st and last application)	Remarks (Variety)
				Date (1 st and last), interval	Method, applic. amount	Applic. technique		
PC12 SCT 35	Biofarm srl	Peach Vairano Patenora Caserta (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/106 (2) 5 net trees per plot, 4 replic.	25/06/2012 27/08/2012 21 days (AVG)	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 72-75 BBCH 85-89	Guglielmina
PC11 SCT 152	Biofarm srl	Sweet cherry S.Felice a Cancellò Caserta (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/35(2) 5 net trees per plot, 4 replic.	04/04/2011 06/06/2011 21 days (AVG)	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 72-75 BBCH 85-89	Ferrovia
PC12 SCT 36	Biofarm srl	Sweet cherry S.Felice a Cancellò Caserta (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/35 (2) 5 net trees per plot, 4 replic.	09/04/2012 11/06/2012 21 days (AVG)	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 72-75 BBCH 85-89	Ferrovia
PC11 SCT 155	Biofarm srl	Sweet orange, Clementine, Mandarin Macerata Campania (CE) (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/106 (2) 5 net trees per plot, 4 replic.	16/08/2011 18/10/2011 21 days (AVG)	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 72-74 BBCH 85-89	Biondo comune Monreal Avana
PC11 SCT 156	Biofarm srl	Sweet orange S.Prisco Caserta (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/106 (2) 5 net trees per plot, 4 replic.	06/08/2011 08/10/2011 21 days (AVG)	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 72-74 BBCH 85-89	Washington Navel
PC12 SCT 40	Biofarm srl	Sweet orange S.Prisco Caserta (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/106 (2) 5 net trees per plot, 4 replic.	04/08/2012 06/10/2012 21 days (AVG)	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 72-74 BBCH 85-89	Washington Navel
PC12 SCT 41	Biofarm srl	Sweet orange, Clementine, Mandarin Macerata Campania (CE) (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/106 (2) 5 net trees per plot, 4 replic.	18/08/2012 20/10/2012 21 days (AVG)	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 72-74 BBCH 85-89	Biondo comune Monreal Avana

Trial reference	Testing unit	Crop Trial location	Test method, plot size	Application details			Growth stage crop (1 st and last application)	Remarks (Variety)
				Date (1 st and last), interval	Method, applic. amount	Applic. technique		
PC11 SCT 154	Biofarm srl	Olive Vasto (Chieti) (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/108 (3) 5 net trees per plot, 4 replic.	11/08/2011 10/10/2011 20 days	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 75 BBCH 89	Leccino
PC11 SCT 157	Biofarm srl	Olive S.Prisco Caserta (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/108 (3) 5 net trees per plot, 4 replic.	18/08/2011 17/10/2011 20 days	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 75 BBCH 89	Oliva Caiazzana
PC12 SCT 38	Biofarm srl	Olive Vasto (Chieti) (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/108 (3) 5 net trees per plot, 4 replic.	09/08/2012 11/10/2012 21 days (AVG)	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 75 BBCH 89	Leccino
PC12 SCT 39	Biofarm srl	Olive S.Prisco Caserta (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/108 (3) 5 net trees per plot, 4 replic.	07/08/2012 09/10/2012 21 days (AVG)	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 75 BBCH 89	Oliva Caiazzana
PC11 SCT 153	Biofarm srl	Walnut S.Felice a Canello Caserta (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), - 5 net trees per plot, 4 replic.	06/07/2011 07/09/2011 21 days (AVG)	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 77-78 BBCH 85-87	Sorrento
PC12 SCT 37	Biofarm srl	Walnut S.Felice a Canello Caserta (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), - 5 net trees per plot, 4 replic.	10/07/2012 11/09/2012 21 days (AVG)	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 77-78 BBCH 85-87	Sorrento
PC12 SCT 47	Biofarm srl	Kiwi fruit Pastorano Caserta (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/106 (2) 5 net trees per plot, 4 replic.	10/09/2012 12/11/2012 21 days (AVG)	Spraying, 200 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 75-77 BBCH 85-89	Hayward
PC11 SCT 164	Biofarm srl	Blueberries S.Giorgio del Sannio - BN (Italy)	EPPO 1/135 (3), 152 (4), 1/181 (4), 1/106 (2) 20 net trees per plot, 4 replic.	23/04/2011 25/06/2011 21 days (AVG)	Spraying, 100 L/ha Mass-trapping (90 traps/ha)	Air assisted - Traps baited with attractive chemicals	BBCH 71-73 BBCH 87-89	Jersey

Sites and testing facilities

A total of 16 trials was performed for evaluation of the effectiveness of NUTREL as insect attractant agent in orchards in southern Europe. The trials were performed in southern Italy (8 trials in 2011 and 8 trials in 2012) by official institutes and a Contract Organisation. The full addresses of the testing facilities can be found in Paragraph IIIA 6.7. All trials were performed according to GEP.

Experimental details

Trials were conducted to evaluate the effectiveness of NUTREL as insect attractant for peach, cherry, orange, clementine, mandarin, olive, walnut, kiwi fruit and blueberries.

Formulations applied and application rates

In these trials, the product Amadene, was used as reference product. This product is also based on Hydrolysed proteins but at a concentration of 421 g/L. In Italy this product has a normal approval for use in orchards.

Reference products included in effectiveness trials

Product	Active substance	Content	Formulation type
Amadene	Hydrolysed proteins	421 g/L	SL

Application methods

The test products were applied by means of an air assisted knapsack sprayer in a water amount of 100-200 L/ha soil surface.

CP 6.2.11 Summary form of information concerning rates and timing of application

Trial number	Product	Number of applications	Application Timing*	Application rate		
				g a.s./ha	L product /ha**	Water amount L/ha
PC11 SCT 151 (Peach)	Untreated	0	BBCH 72-75	-	-	-
	Nutrel	1 st	BBCH 72-75	907	2,4	200
	Nutrel	2 nd	BBCH 77-79	907	2,4	200
	Nutrel	3 th	BBCH 81-85	907	2,4	200
	Nutrel	4 th	BBCH 85-89	907	2,4	200
PC12 SCT 35 (Peach)	Untreated	0	BBCH 72-75	-	-	-
	Nutrel	1 st	BBCH 72-75	907	2,4	200
	Nutrel	2 nd	BBCH 77-79	907	2,4	200
	Nutrel	3 th	BBCH 81-85	907	2,4	200
	Nutrel	4 th	BBCH 85-89	907	2,4	200
PC11 SCT 152 (Sweet cherry)	Untreated	0	BBCH 72-75	-	-	-
	Nutrel	1 st	BBCH 72-75	907	2,4	200
	Nutrel	2 nd	BBCH 77-79	907	2,4	200
	Nutrel	3 th	BBCH 81-85	907	2,4	200
	Nutrel	4 th	BBCH 85-89	907	2,4	200
PC12 SCT 36 (Sweet cherry)	Untreated	0	BBCH 72-75	-	-	-
	Nutrel	1 st	BBCH 72-75	907	2,4	200
	Nutrel	2 nd	BBCH 77-79	907	2,4	200
	Nutrel	3 th	BBCH 81-85	907	2,4	200
	Nutrel	4 th	BBCH 85-89	907	2,4	200
PC11 SCT 155 (Citrus)	Untreated	0	BBCH 72-74	-	-	-
	Nutrel	1 st	BBCH 72-74	907	2,4	200
	Nutrel	2 nd	BBCH 79-81	907	2,4	200
	Nutrel	3 th	BBCH 83-85	907	2,4	200
	Nutrel	4 th	BBCH 85-89	907	2,4	200
PC11 SCT 156 (Citrus)	Untreated	0	BBCH 72-74	-	-	-
	Nutrel	1 st	BBCH 72-74	907	2,4	200
	Nutrel	2 nd	BBCH 79-81	907	2,4	200
	Nutrel	3 th	BBCH 83-85	907	2,4	200
	Nutrel	4 th	BBCH 85-89	907	2,4	200
PC12 SCT 40 (Citrus)	Untreated	0	BBCH 72-74	-	-	-
	Nutrel	1 st	BBCH 72-74	907	2,4	200
	Nutrel	2 nd	BBCH 79-81	907	2,4	200
	Nutrel	3 th	BBCH 83-85	907	2,4	200
	Nutrel	4 th	BBCH 85-89	907	2,4	200
PC12 SCT 41 (Citrus)	Untreated	0	BBCH 72-74	-	-	-
	Nutrel	1 st	BBCH 72-74	907	2,4	200
	Nutrel	2 nd	BBCH 79-81	907	2,4	200
	Nutrel	3 th	BBCH 83-85	907	2,4	200
	Nutrel	4 th	BBCH 85-89	907	2,4	200
PC11 SCT 154 (Olive)	Untreated	0	BBCH 75	-	-	-
	Nutrel	1 st	BBCH 75	907	2,4	200
	Nutrel	2 nd	BBCH 79	907	2,4	200
	Nutrel	3 th	BBCH 85	907	2,4	200
	Nutrel	4 th	BBCH 89	907	2,4	200

Trial number	Product	Number of applications	Application Timing*	Application rate		
				g a.s./ha	L product /ha**	Water amount L/ha
PC11 SCT 157 (Olive)	Untreated	0	BBCH 75	-	-	-
	Nutrel	1 st	BBCH 75	907	2,4	200
	Nutrel	2 nd	BBCH 79	907	2,4	200
	Nutrel	3 th	BBCH 85	907	2,4	200
	Nutrel	4 th	BBCH 89	907	2,4	200
PC12 SCT 38 (Olive)	Untreated	0	BBCH 75	-	-	-
	Nutrel	1 st	BBCH 75	907	2,4	200
	Nutrel	2 nd	BBCH 79	907	2,4	200
	Nutrel	3 th	BBCH 85	907	2,4	200
	Nutrel	4 th	BBCH 89	907	2,4	200
PC12 SCT 39 (Olive)	Untreated	0	BBCH 75	-	-	-
	Nutrel	1 st	BBCH 75	907	2,4	200
	Nutrel	2 nd	BBCH 79	907	2,4	200
	Nutrel	3 th	BBCH 85	907	2,4	200
	Nutrel	4 th	BBCH 89	907	2,4	200
PC11 SCT 153 (Walnut)	Untreated	0	BBCH 77-78	-	-	-
	Nutrel	1 st	BBCH 77-78	907	2,4	200
	Nutrel	2 nd	BBCH 78-79	907	2,4	200
	Nutrel	3 th	BBCH 81-83	907	2,4	200
	Nutrel	4 th	BBCH 85-87	907	2,4	200
PC12 SCT 37 (Walnut)	Untreated	0	BBCH 77-78	-	-	-
	Nutrel	1 st	BBCH 77-78	907	2,4	200
	Nutrel	2 nd	BBCH 78-79	907	2,4	200
	Nutrel	3 th	BBCH 81-83	907	2,4	200
	Nutrel	4 th	BBCH 85-87	907	2,4	200
PC12 SCT 47 (Kiwi fruit)	Untreated	0	BBCH 75-77	-	-	-
	Nutrel	1 st	BBCH 75-77	907	2,4	200
	Nutrel	2 nd	BBCH 79-81	907	2,4	200
	Nutrel	3 th	BBCH 83-85	907	2,4	200
	Nutrel	4 th	BBCH 85-89	907	2,4	200
PC11 SCT 164 (Blueberries)	Untreated	0	BBCH 71-73	-	-	-
	Nutrel	1 st	BBCH 71-73	454	1,2	200
	Nutrel	2 nd	BBCH 75-78	454	1,2	200
	Nutrel	3 th	BBCH 81-85	454	1,2	200
	Nutrel	4 th	BBCH 87-89	454	1,2	200

*Note: reference product used on the same dates

**Mass trapping: 8,5 l/ha for all treatments

Assessment methods

The efficacy of NUTREL was assessed through the following parameters: number of fruits, yield and calibration in all trials.

CP 6.3 Effects on Yield and Quality**CP 6.3.1 Impact on the quality of plants and plant products**

The active substance (Hydrolysed proteins) contained in NUTREL is largely used alone or in association over more than twenty years. To our knowledge, no particular impact was noted on quality of crops treated with Hydrolysed proteins.

Considering these elements, no additional study was conducted.

CP 6.3.2 Effects on the Processing Procedure

The active substance (Hydrolysed proteins) contained in NUTREL is broadly used alone or in association over more than twenty years. No particular impact is known on processing procedure of crop's products treated with Hydrolysed proteins.

There is no evidence that NUTREL has any effects on transformation processes. It has been used on commercial scale for many years already without problems. Besides, no significant residues are found after application of NUTREL.

Considering these elements, no additional study was conducted.

CP 6.3.3 Effects on the yield of treated plants and plant products

Sixteen trials were set up in Italy, in the main regions producing the various studied crops covering all soil and climate conditions. They were performed according to the GAPs defined in Appendix 1.

Two-four application with insect-attractant containing Hydrolysed proteins at crop stage BBCH different, increases yield compared to the untreated control.

The active substance (Hydrolysed proteins) contained in NUTREL is largely used alone or in association over more than twenty years. To our knowledge, no particular impact was noted on quality of crops treated with Hydrolysed proteins.

Considering these elements, no additional study was conducted.

APPENDIX 1

Intended uses-GAP table

Tradename: NUTREL

Active Ingredient: Hydrolysed proteins 30% (= 378 g/L)

(a)	Member State or Country	Product name	F, G, or I (b)	Pests or Group of pests controlled (c)	Formulation		Application				Application rate per treatment			PHI (days) (l)	Remarks: (m)
					Type (d-f)	Conc. of as (i)	method kind (f-h)	growth stage (j)	number min max (k)	interval between applications (min)	kg as/hL max	water L/ha min max	kg as/ha max		
<i>Olea europaea</i> L. (olive) <i>Malus pumila</i> Mill., <i>Pyrus communis</i> L. (Pome fruits) <i>Prunus</i> spp, <i>Persica vulgaris</i> Mill., (stone fruits) <i>Juglans regia</i> L. (walnut) <i>Citrus</i> spp (citrus) Fig, Actinidia and Blueberries	Italy, Spain, Greece, Portugal, France	NUTREL	F	Adult insects (Diptera) laying eggs on fruits	SL (n)	378 g/l	Normal volume spraying, / high pressure	7 (o)	2 - 4	10 - 30	-	100-200	0.907	(p)	(2.4 L product/ ha)
				Mass trapping			Product in Traps	Development of fruits	N.A.	N.A.	90 Traps/Ha	N.A.	8,5	N.A.	(22.5 L product/ ha).

Remarks: (a) For crops, the EU and Codex classifications (both) should be used; where relevant, the situation should be described (e.g. fumigation of a structure)
(b) Outdoor or field use (F), glasshouse application (G) or indoor application (I)
(c) e.g. biting and sucking insects, soil born insects, foliar fungi, weeds
(d) e.g. wettable powder (WP), emulsifiable concentrate (EC), granule (GR)
(e) GCPF Codes - GIFAP Technical Monograph No 2, 1989
(f) All abbreviations used must be explained
(g) Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench
(h) Kind, e.g. overall, broadcast, aerial spraying, row, individual plant, between the plant- type of equipment used must be indicated

(i) g/kg or g/l
(j) Growth stage at last treatment (BBCH Monograph, Growth stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4); including where relevant, information on season at the time of application
(k) Indicate the minimum and maximum number of application possible under practical conditions of use
(l) PHI - minimum pre-harvest interval
(m) Remarks may include: Extent of use / economic importance / restrictions
(n) Soluble Liquid (Water solution)
(o) Development of fruits, the growth stage depends on the authorized insecticide utilized in mixture
(p) Not required for the active substance itself. Refer to the authorized insecticide utilized in mixture