

Online Tool for Estimation of Measurement Uncertainty

Screenshots



• My EOPT Results (EOPT data extracted from the EOPT Archive D



@www.eurl-pesticides-test.eu/Account/LogOn



After the login-procedure you will see the "myLab"-Tab in the top-navigation bar.

1.:





EURL DataPool

× +

www.eurl-pesticides-test.eu/Member/MyLab

If you do not see this button, please contact EURL-SRM@cvuas.bwl.de



This table lists all EUPTs in which your lab participated.

(Comment: not all EUPTs were imported into the EUPT-Archive till now. We are currently addressing this matter.)

Home	Compour	nd Data	Regulatory	myLab	EURL No	etwork Adminis	tration Reference Labs Tu		
Conta	ct Data 🔻	EUPTs 🔻	My Method	Validation	Data 🔻	Estimation of Meas	urement Uncertainty 🔹		
ool t	for Calc	ulation	of Meas	ureme	nt Unc	ertainty bas	ed on my EUPT-result	s and	Data
									Dutt
Guide	Select EU	PT-Compo	unds Select	EUPTs	Refresh EU	PT Calculations	Calculate Uncertainties		
	Included	EUPT Na	me	Ye	ear	Commodity	Participation Category	y EUPT Type	EUPT Conducted on Behalf of
•	\checkmark	C06		20)12	Barley	A	С	Germany
•	✓ FV14 20:		012	Pear	А	FV	Germany		
	F			20	011	Mandarine	А	FV	Germany
+	$\overline{}$	C04		20	010	Rye	А	С	Germany
•				20	010	Leek	А	FV	Germany
•	Click	on th	is triar	ngle-i	icon 1	Mushrooms he	tails on EUPT-FV	13	Germany
•	CHER							13.	Germany
۱.	\checkmark	Ad-hoc-l	PT-Nicotine (3) 20	009	Mushrooms, Po	olyporus N/A		Germany
•	$\overline{\checkmark}$	FV11		20	009	Cauliflower	А	FV	Germany
•	$\overline{\checkmark}$	FV10		20	800	Carrot	А	FV	Germany
	1	EVOO		20	707	Ctrawbarn		EV/	Cormony

	Julation of	Heasarem		icerta	inty based on m		110	Suits				
Select El	UPT-Compounds	Select EUPTs	Refresh	EUPT Cal	culations Calculate Unc	certainties						
Included	EUPT Name				Yea	r	Com	modity		Participation Category	EUPT Type	EUPT Conducted on Behalf of
\checkmark	FV13				201	1	Man	darine		A	FV	Germany
Measurem	ent Uncertainty R	lesults										
Compound Info				fo	Your E	UPT Re	esults		Partial Results	of MU Calculation	n Procedure	
Included	Compound	Assigned Value	Unit	Qn	No. of Reported Results	Detected	FN	Result	Square of Bias	(i) SQRT(No. of Report	ed Results)	Qn/SQRT(No. of Reported Results)
\checkmark	Diazinon	0.189	mg/kg	0.24	141	Yes	No	0.22	0.02	.69	11.8743	0.0202
v	EPN	0.422	mg/kg	0.26	82	Yes	No	0.39	0.00	58	9.0554	0.0287
v	Imazalil	1.3	mg/kg	0.24	126	Yes	No	1.2	0.00	159	11.225	0.0214
\checkmark	Indoxacarb	0.792	mg/kg	0.25	106	Yes	No		0.00	28	10.2956	0.0243
✓	Chlorpyrifos	0.786	mg/kg	0.24	141	Yes	No	0.8		19	11.8743	0.0202
v	Deltamethrin	0.133	mg/kg	0.25	127	Yes	No	0.14			11.2694	0.0222

This details-table is similar to table 1 of the Document SANCO/12571/2013 (p. 30).

It shows – among others - some calculated paramteres, e.g. like "Square of Bias'(i)" and "Square root of the number of results". We added the following columns : "Unit", "Detected", "FN" (false negative).

Use these b 1.) select th			nds	or El	JPTs	and 2	.) ca	lculat	e the	expa	anded M	IU.
	Home	Compour	nd Dat	Reg	ulatory	myLab	EURL	Network	Adminis	tration	Reference L	abs Tutorials
	Contact Data EUPT			T: ▼ My Method Validation Data ▼ Estimation of Mea: J					urement	ement Uncertainty 🔻		
	Tool f	for Calc	ulat	n of	Meas	ureme	nt Un	certain	ity ba	d or	ı my EUPT	-results and
	Guide	Select EU	PT-Cor	npounds	Select	t EUPTs	Refresh I	esh EUPT Calculations Calculate Uncertaint			Uncertainties	
	Included EUP			Name							Year	Commodity
		\checkmark	FV13	}							2011	Mandarine

Home	Home Compour		Regulatory	myLab	EURL	Network	Administration	Reference La
Contac	Contact Data 🔻		My Method	Validation	Data 🔻	Estimatio	on of Measurement	Uncertainty 🔻

Tool for Calculation of Measurement Uncertainty based on my EUPT-



(a) At pages 10-12 you find details on how to select one or more EUPTs for the MU estimation.

(b) At pages 13-15 you find details on how to select one or several pesticides for the MU estimation.

Option (a): Estimation of the expanded MU for one or several EUPTs

If you would like to estimate the **expanded MU over a number of compounds** based on results of just **one EUPT** (e.g. EUPT-FV13) proceed as follows:

00 Tor Calculation of Measurement oncertainty based on my LOFT-results and valuation Data

Gu	iide	Select El	JPT-Compounds	Sele	ect EUPTs	efre		s t - t - :	K	1
		Included	EUPT Name			_	•			-
4		V	FV13							
		Measureme	ent Uncertainty Resu	ults						2
								Con	ηp	-
		Included	Compound		Present in S	Sample	Assi	ned Value	ι	
		✓	Carbendazim (sun	n)	Yes			1.25	r	
		V	Chlorpyrifos		Yes			0.786	r	
		v	Deltamethrin		Yes			0.133	n	
		✓	Diazinon		Yes			0.189	n	3
		F								Ŭ

Click on the button "Select EUPTs"

Select "**FV13**" in the new window. (you can also select more than one EUPT to be considered in the MU calculation process)

. Finally confirm with "OK"

Incl ded	EUPT V	Year	
	FV14	20 2	-
	FV13	20 1	=
	FV12	20 0	
	FV11	20 9	
	FV10	20 8	
	FV09	2007	
	FV08	2006	
	FV07	2015	-

Option (a): Estimation of the expanded MU for one or several EUPTs

Only the sel	ected	EUPT is sho	<mark>wn in this t</mark>	able.								
Home Compound Data Regulatory myLab EURL Network Administration rials Contact Data * EUPTs * My Method Validation Data * Estimation of Measurement Estimation of Measurement												
Included EUPT Name	Year	Commodity	Participation Category	EUPT Type	EUPT Conducted on Behalf of							
FV13	2011	Mandarine	A	FV	Germany							

If you want to exclude some pesticides from the MU estimation procedure, open the details table and **de-select** the appropriate compounds.

Included	EUPT Name				Year	Commodity		Particip	ation Cate	egory EUPT Ty	ype EUPT C	onducted on Beha
\checkmark	FV13				2011	Mandarine		Α		FV	Germar	ıy
Measurem	ent Uncertainty Results											
			Cor	npound Inf	0		Your E	UPT Re	sults	Partial Res	ults of MU Calculatior	Procedure
Included	Compound	Present in Sample	Assigned Value	Unit	Qn	No. of Reported Results	Detected	FN	Result	Square of Bias`(i)	SQRT(No. of Re	Qn/SQRT(No. o
\checkmark	Ca bendazim (sum)	Yes	1.25	mg/kg	0.3	111	Yes	No	1.2	0.0016	10.5357	0.02
	enlorpyrifos	Yes	0.786	mg/kg	0.24	147	Yes	No	0.82	0.0019	12.1244	0.0
	Deltamethrin	Yes	0.133	mg/kg	0.25	133	Yes	No	0.14	0.0028	11.5326	0.02
	Diazinon	Yes	0.189	mg/kg	0.24	147	Yes	No	0.22	0.0269	12.1244	0.01
v	EPN	Yes	0.422	mg/kg	0.26	84	Yes	No	0.39	0.0058	9.1652	0.02
✓	Imazalil	Yes	1.3	mg/kg	0.24	132	Yes	No	1.2	0.0059	11.4891	0.0

Option (a): Estimation of the expanded MU for one or several EUPTs



Option (b): Estimation of expanded MU for one or several pesticides

If you would like to estimate the **expanded MU for ONE specific pesticide** taking into account the results of **many EUPTs** proceed as follows:



Option (b): Estimation of expanded MU for one or several pesticides

RL.	Network Administration Reference Select those compounds that should	Labs Tutori d be consider	als ed in the estimation of MU	x x
1	Select All De-Select All			
	Included Compound	T	Compound amenable to 🍸	Comp
est	Boscalid 1.: Click here to include "Boscalid" into the calculation process		MRM	C06; I *
			• •	•
			Ok	Cancel
		2.: Confirm	n by clicking "Ok".	

Option (b): Estimation of expanded MU for one or several pesticides





Tool for Calculation of Measurement Uncertainty based on my EUPT-results and Validation Data

de Select El	JPT-Compounds Select E	IPTs Refresh EUPT Calculations	Calculate Uncertainties							
Included	EUPT Name			Commodity	Participation Category	EUPT Type	EUPT Conducted on Behalf of			
	FV13		Mandarine A FV G							
		Please All calc the ma	consider: ulations by	the ML formula	tainties " to pr JC-Tool are ba as in Documer	sed on				

In this part of the MU Estimation procedure, the tool will consider the withinlaboratory reproducility u'(RSD_{wR}).



If your lab **did submit method validation data to EURL DataPool**, you can use this data to calculate the u'(RSD_{wR}).

Meas	urement uncer	tainties calculation			>	<
your	laboratory to the	he within-laboratory reprod Method Validation Data da	tabase.			
calcu U'(R	lated to: (SDwR): 0.054					I can overwrite this value at any time
Sele	ct All De-Select	All ValidationContext	Spiking Level [m	# of Recoveri	Individual RSD	
e)	2,4-D	Basic validation	0.002	5	0.1181	
e)	2,4-D	Basic validation	0.005	4	0.0352	
e)	2,4-D	Interlab. test	0.01	5	0.0664	
e)	2,4-D	Interlab. test	0.025	10	0.	

To calculate the u'(RSD_{wR}), the method validation data is grouped by compound, extraction method, amenability to method type (MRM, SRM, MRM/SRM), commodity group, validation context and spiking level.

Data sets with less than three recoveries are excluded. The individual RSDs are calculated for each of these data-groups. Finally, the median RSD-value is taken as the u'(RSD_{wR}). In this case 0.054 (see above).

The calculation procedure of u'(RSD_{wR}) is NOT fixed yet and is a first proposal. The final decision has to be taken by the AQC Group.

If you want to calculate the u'(RSDwR) e.g. for all compounds amenable to multi-residue methods (MRM) and validated with *"water containing"* commodities, please proceed as as shown at the next pages:

Measurem	ent uncertaintie	es calculation			×							
For the calculation of the within-laboratory reproducibility U'(RSDwR), the tool used recovery data submitted by your laboratory to the Method Validation Data database. The within-laboratory reproducibility for the selected compounds based on your method validation data was calculated to: U'(RSDwR): 0.054												
Select All	De-Select All											
Included	Compound T	Commodity Group	Commodity Group	ValidationContext T	Aı							
	2,4-D	MRM/SRM	Water containing	Basic validation	Q▲ ≣							
	2,4-D	MRM/SRM	Water containing	Basic validation	Q							
	2,4-D	MRM/SRM	Water containing	Interlab. test	Q							
	2,4-D	MRM/SRM	Water containing	Interlab. test	Q							
	2,4-D	MRM/SRM	Water containing	Basic validation	Q							
•					•							
	2 3 🕨			1 - 100 of 8025 items	Ċ							
	Ok Cancel											



he within-	atory to the Metho Haboratory reprodu	The u'(RSDw your filter-cr	R) was re-calcu iteria.	lated based or	ו
Select All	De-Select All	N			
ncluded	Compound T	Commodity Group	Commodity Group	ValidationContext 🔻	Ar
v	Aclonifen	MRM	Water containing	Basic validation	Q
✓	Aclonifen	MRM	Water containing	Basic validation	Q
v	Acrinathrin	MRM	Water containing	Basic validation	Q
\checkmark	Acrinathrin	MRM	Water containing	Basic validation	Q
✓	Acrinathrin	MRM	Water containing	Interlab. test	Q
	III				4
) (1) (D 2 3 🕨			1 - 100 of 1720 items	0

Click on the "Ok"-button.

(=> the tool will calculate the expanded MU and show the final result as well as some interim results summarized in one table (-> see next page)).

Final Result of MU estimation

Final table summarizing all important interim results and the expanded MU (at the bottom of the table).

ol for Calculation of Measurement Uncertainty based

Equation	Comment	Parameter		Result
l	Number of EUPT results used in the calculation procedure	m		
	Sum of squares of the bias	$\sum (bias_i)^2$ where $bias = rac{ ext{lab result}_i - ext{assigned value}_i}{ ext{assigned value}_i}$	0.3885	
	Sum of quotients between Qn and square roots of number of submitted lab results	$\sum rac{\mathrm{Qn}_i}{\sqrt{\mathrm{No. of \ lab \ results_i}}}$	0.45690	000
	Uncertainty component arising from method and laboratory bias (estimated from your EUPT data)	$u'(bias) = \sqrt{\left({ m RMS'}_{bias} ight)^2 + u'(c_{ m ref})^2}$		
	Root mean square of the sum of squared bias(i) divided by number of EUPT results used in the calculation procedure	$ ext{RMS'}_{ ext{bias}(i)} = \sqrt{rac{\sum (bias_i)^2}{m}}$	0.14299	9
		$u'(c_{ m ref}) = rac{\sum rac{{ m Qn}_i}{\sqrt{ m No. \ of \ lab \ results_i}}}{m} \cdot 1.253$	0.0301	Expanded MU
	By applying the results of RMS'bias (equation 4) and $u'(c_{ref})$ (equation 5) to equation 3, $u'(bias)$ is calculated to:	u'(bias) =	0.146	The filtered data was: EUPT-FV13 to calculate the lab's u'(bias) and method validation data
	Estimation of the within-laboratory reproductibility	$u'(RSD_{wR})$: In case your lab submitted method validation data to EURL DataPool, $u'(RSD_{wR})$ is calculated by the system as follows: the data is grouped by compound, analytical method and the spiking level and the RSD is calculated for each group. Finally, the median of all RSDs is used as $u'(RSD_{wR})$. In case the laboratory submitted NO method validation data, the value for $u'(RSD_{wR})$ has to be entered by the user.	0.049	(MRM-pesticides; water-containing commodities) to calculate lab's
	Combined standard uncertainty	$u' = \sqrt{u'(RSD_{\mathrm{wR}})^2 + u'(bias)^2}$	0.1541	u'(RSDwR).
	Expanded coverage factor	k = 2		7/
	Expanded measurement uncertainty	$U' = k \cdot u'$	30.8	

If you want to download your EUPT-data, please follow these steps:

EL	EURL-	DataPool	1.: Click on "myLab"	
Home	e Compound Data Re	gulatory myLab	L Network Auministration Reference Labs T	utorials
Cont	tact Data 🔻 EUPTs 💌 My EUPT Res	1y Method Validation Data 🔻	Estimation of Measurement Uncertainty •	
	EUPT Recenter and drop it		ick on "EUPTs" and then click or I <mark>ts"</mark>	າ "My EUPT
	a column header and drop it	here to group by Resul		A My EUPT
	a column header and drop it Year	Here to group by Resul	ts"	Татасіран
	a column header and drop it Year T 2012	here to group by Resul EUPT Name C06	ts" Barley	A
Drag a	a column header and drop it Year 2012 2012	here to group by Resul EUPT Name C06 FV14	ts" Barley Pear	A A
Drag a	a column header and drop it Year 2012 2012 2011	here to group by Resul	ts" Barley Pear Mandarine	A A A

If you want to download your EUPT-data, please follow these steps:

