

Spanish Working Group on Dose Expression



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Technology (INIA), Madrid.*



***Panel on Efficacy Evaluation of Fungicides and Insecticides,
Barcelona, 28-30 November, 2017***

WHY WAS A WORKING GROUP ON DOSE EXPRESSION NEEDED?

1. **Research groups (R+D) on dose adjustment and application techniques of PPP** requested a meeting with INIA in order to know **how to harmonize and adjust dose to comply with requirements established in the Directive 2009/128/EC** to achieve a **sustainable use of pesticides** by reducing the risks and impacts of pesticide use on human health and the environment and promoting the use of integrated pest management and of alternative approaches or techniques such as non-chemical alternatives to pesticides.
2. **INIA** took part in the meeting of **Panel on General Standards on Efficacy Evaluation** in 2016, and one of the issues discussed was the organization of **EPPO Workshop on harmonized dose expression for the zonal evaluation of plant protection products in high growing crops** that would be held in Vienna (2016-10-18/20).



- **Discuss Harmonization and dose adjustment to comply with Directive on sustainable use of pesticides**
- **Discuss Harmonization on dose expression for the zonal evaluation of PPP in high growing crops**

PARTICIPANTS 1st Meeting- July 6th, 2016. INIA.

INDUSTRIES OF PPP



Companies Association for
the Protection of Plants
(**AEPLA**) (Spanish Industry
Association)

ASSESSMENT OF PPP



Unit of PPP. National Institute for
Agricultural and Food Research and
Technology (**INIA-UPF**)

NATIONAL REGISTRATION AND LABEL OF PPP



Ministry of Agriculture
(**MAPAMA**)

Observer : NATIONAL ASSOCIATION OF
AGRICULTURAL MACHINERY
(ANSEMAT)



OPTIMUM DOSE ADJUSTMENT RESEARCH GROUPS (R+D):



UNIVERSIDAD DE ALMERÍA

**Polytechnic University of Almeria
(UAL): High growing vegetables
greenhouse (tomato/pepper)**



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de investigaciones agrarias



UNIVERSITAT
POLITÈCNICA
DE VALÈNCIA

**Valencian Institute for
Agricultural Research (IVIA)/
Polytechnic University of
Valencia (UPV): Citrus**



UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH

**Polytechnic University of
Catalunya (UPC): Grapevine**



UNIVERSIDAD
DE
CÓRDOBA

**University of Cordoba (UCO):
Olive**



Universitat
de Lleida

**University of Lleida (UdL):
Pome and Stone fruits**



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OUTCOMES AND CONCLUSIONS

OPTIMUM DOSE ADJUSTMENT RESEARCH GROUPS (R+D):



UNIVERSIDAD DE ALMERÍA

Polytechnic University of Almería (UAL): High growing vegetables greenhouse (tomato/pepper).



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UNIVERSITAT POLITÈCNICA DE VALÈNCIA

Valencian Institute for Agricultural Research (IVIA)/ Polytechnic University of Valencia (UPV): Citrus



UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH

Polytechnic University of Catalunya (UPC): Grapevine



UNIVERSIDAD DE CORDOBA

University of Córdoba (UCO): Olive



Universitat de Lleida

University of Lleida (UdL): Pome and Stone fruits



EPPO Workshop on harmonized dose expression for the zonal evaluation of plant protection products in high growing crops
Austrian Agency for Health and Food Safety
Vienna, 2016-10-18/20

Presentations per Zone based on the questionnaire filled in by countries
- Southern EU Authorization Zone (Veronique Mironet, ANSES, France)

CONCLUSIONS on Dose Expression

1 REQUEST FORM OF PPP OFFICIAL REGISTRATION (Industry to MAPAMA)

It was proposed to include the **Good Agriculture Practice table** in the request form of PPP official registration to avoid misunderstandings.

- **Application rate: kg or L product/ha; g or kg as/ha; L/ha water volume**
- **Dose expression** to be indicated **on the label** should be also specified on **remarks** column of GAP table.

Consistent relation between requested, assessed and registered dose expressions

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use- No. (e)	MS (s)	Crop and/ or situation	F, G, I	Pests or Group of pests controlled	Application				Application rate			PHI	Remarks: Add other dose expression to be showed on the label
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applicatio ns (days)	kg or L product / ha a) max. rate per appl. b) max. total rate per crop/season	g or kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		

2 EFFICACY ASSESSMENT /OTHER RISK ASSESSMENT AREAS

If **dose expression** presented in **BAD** and **efficacy dRR** are
/ha leaf wall area LWA; /10000 m³ tree row volume TRV; /ha and m canopy height...



A conversion factor between these doses expressions and
/hL (%) + (maximum water volume L/ha or max. product /ha (GAP)) would be
required to relate to **other risk assessment areas** (ecotox, fate, residues,...)



3 REGISTRATION OF OFFICIAL AUTHORIZATIONS AND LABEL

Dose expression:

- **/hL (%) + (maximum water volume L/ha or max. product/ha)**

Dose expression from **efficacy trials** and that one assessed in **other risk assessment areas** as well as dose expression to be included in the **registration of official authorizations** and on the **label** should be consistent.

4

For the **Southern Zone**, it would be needed to define an **equivalence factor** (to be determined) or to use other dose expressions such as **vegetation volume per ha along with leaf density or BBCH**. *Still in discussion.*

The use of other dose expressions as **LWA** should be confirmed by means of **experimentations** in the **specific conditions of high growing crops for the Southern Zone**.

5

Minimum parameters are required to convert to different dose expressions:

Mid- height of the canopy

Mid-width of the crown

Distances between rows

Distance between plants, within row (importance in olives and globular trees)

Leaf density (or porosity) (to be developed)

6

A **new EPPO standard or modification of EPPO PP1/239(2)** “*Dose expression for plant protection products*” is needed to include the cited **parameters**, as well as **procedures** (examples, formulas, models) to facilitate the **conversions**.

7

The need to develop an **officially recognized tool for calculating the optimum volume of application** in different crops. Tools developed by the research groups may take into account for this work.

8

Consequently, participants showed interest in establishing a **task force** to develop a project on **implementing tool** to help farmer to **calculate and adjust the optimum volume for the application of PPP** in high growing crops.

CONCLUSIONS and RECOMMENDATIONS EPPO Workshop on harmonized dose expression for the zonal evaluation of plant protection products in high growing crops. Vienna (2016-10)

- ✓ **LWA** was agreed as an appropriate dose expression for PPP in pome fruit, grapevine and high growing vegetables;
- ✓ Conversion of different dose expressions should always be possible;
- ✓ All relevant crop parameters should be measured and made available (for all 3D dose expressions; see **EPPO Standard PP 1/239**- revision, next meeting of the EPPO Panel on GS in February 2017).
- ✓ **Two different situations** should be distinguished: crops that form '**walls**' and '**globular (isolated) trees**' (i.e. trees/crops that do not form walls such as citrus, olive, stone fruit trees).
- ✓ For '**globular trees**' further data should be collected to enable calculation of **canopy width** (i.e. the 3rd dimension).

CURRENT ACTIONS OF SPANISH WG ON DOSE EXPRESSION

Contributions and Meetings follow up of EPPO workshop Vienna, Oct 2016

- ✓ Members of Spanish WG on dose expression take part in both **ad-hoc Working Groups** established by EPPO after Workshop:
 - *Ad hoc* Expert Working Group on **dose conversion and dose adjustment**
 - *Ad hoc* Expert Working Group on **glossary of terms and on measurement of crop parameters**
- ✓ **Meeting, 26th April 2017, IVIA, Valencia.** Participants: IVIA, INIA, MAPAMA, Industry 3 D crop team - ECPA and AEPLA
Main objective: Reach a common proposal and agreement on a preferred harmonized dose expression for field testing and evaluation of PPP in citrus
- ✓ **Meeting, 26th May 2017, MAPAMA, Madrid.** Participants: UdL, IVIA, MAPAMA, INIA.
Objectives: Progress on the conversion and dose adjustment tool / Consensus points to be proposed in the SZ / Discussion if Biological dossiers should present information on "active substance deposition by leaf area (ng a.s./cm²)" (proposal to follow ISO 22522:2007)

THANK YOU FOR YOUR ATTENTION



/ha leaf wall area LWA



/ha and m canopy height

/hl (%)

/ha ground



/10000 m3 tree row volume TRV

