

EXTRAPOLATION TABLE for EFFECTIVENESS of INSECTICIDES

► PESTS IN UMBELLIFEROUS CROPS

INTRODUCTION

The table provides detailed lists of acceptable extrapolations organized by crop groups, for regulatory authorities and applicants, in the context of the registration of plant protection products for minor uses. The table should be used in conjunction with the EPPO Standard PP1/257(1) - *Efficacy and crop safety extrapolations for minor uses*. It is important to ensure that expert judgment and regulatory experience are employed when using these tables. EPPO excludes liability as to the reliability of the information provided through these tables.

The scope for extrapolation may be extended as data and experience with a certain plant protection products increases. The applicant should always provide appropriate justification and information to support the proposed extrapolation. For example, comparability of target biology may be a relevant factor, either in extrapolating to other target species or for the same target onto another crop. For crops, factors such as comparable growth habit, structure etc. should be considered.

TABLE FORMAT

The main pest species for the crop group are listed in Column 1 (although this is not exhaustive), and the pest group to which they belong is specified in Column 2. Companies may choose if they wish to provide data only for individual named species, which would then appear individually listed on the label. But underlined species have been identified as key major targets and as such it is advisable to generate data on these. Furthermore, data on these species then allow a claim to be made for the whole pest group (as specified in Column 2), if required. If a claim for the whole pest group is required but there is no underlined species, then data must be generated on all listed species.

Column 3 indicates the key indicator crop(s) for the crop group. In some instances this may be only one specified crop. In other cases, when separated by an 'or', the company may choose from a range of alternatives within the group. Data generated on crops in Column 3 may be used to extrapolate to all crops listed in Column 4. However, it is preferable to have data on several of the crops within the crop group, but data on the indicator crop should be available.

Column 5 identifies whether data on other crops against the same target may help to reduce the amount of required data on the indicator crop. It may be possible for a direct extrapolation without the need for further data on the indicator crop (marked with an asterisk (*)). However, this is dependent on the extent of available data and similarity of crop/target biology. The company should provide an appropriate reasoned case when wanting to use supporting data from other crop groups.

Column 6 gives examples of acceptable extrapolations for a particular pest claim onto other minor use crops. This is not a comprehensive list. Whether extrapolation may be direct (no data, marked with an asterisk (*)), or require additional supporting data on the minor use crop, will again be dependent on the extent and relevance of the existing database and companies should provide an appropriate reasoned case. If the crop is considered to be a major crop in some countries then it may not be appropriate to include in this column, and further data would be required. Companies will need to justify the status of the major crop/minor use.

EXTRAPOLATION TABLE for EFFECTIVENESS of INSECTICIDES

► PESTS IN UMBELLIFEROUS CROPS:

DAUCA Carrot *Daucus carota*, APUGV Celery *Apium graveolens* and APUGR Celeriac *Apium graveolens* var. *rapaceum*, FOEVD Fennel *Foeniculum vulgare* var. *dulce*, PAVSA Parsnip *Pastinaca sativa*, PARCR Parsley *Petroselinum crispum*, CORSA Coriander *Coriandrum sativum*, CRYCA Caraway *Caraway*

Pests		Crops: within the Umbelliferae		Crops: outside the Umbelliferae	
1 Pest species	2 Pest group name	3 Indicator crops	4 Extrapolation to other crops	5 Data from these crops can support the indicator crops (reduced data or no data *)	6 Extrapolation to crops (reduced or no data*)
<i>Aulacorthum solani</i> AULASO; <i>Cavariella aegopodii</i> CAVAAE; <i>Dysaphis crataegi</i> DYSACR; <i>Hyadaphis foeniculi</i> HYADFO; <i>Macrosiphum euphorbiae</i> MACSEU; <i>Myzus persicae</i> MYZUPE; <i>Semiaphis dauci</i> SEMIDA	Aphididae 1APHIF	Any umbelliferous	All umbelliferous	Lettuce LACSS Cucumber CUMSC	Black salsify SCVHI
<i>Pemphigus</i> sp. PEMPSP, <i>Pemphigus phenax</i> PEMPDA	Root aphids	Carrot DAUCA , Fennel FOEVD		Lettuce LACSS, Chicory CICIN	Herbs
<i>Chamaepsila rosae</i> , PSILRO (syn. <i>Psila rosae</i>)	Carrot root fly	Carrot DAUCA	All other umbelliferous	Onion ALLCE, Vegetable brassicas	Herbs, Crops for seed production, Spinach SPQOL

<i>Depressaria pastinacella</i> DEPRHE, <i>Plutella xylostella</i> PLUTMA, <i>Hepialus humuli</i> HEPIHU, <i>Hepialus lupulinus</i> HEPILU, <i>Autographa</i> sp. AUTGSP, <i>Mamestra</i> sp. 1MAMEG and other caterpillar species	Caterpillars	Celery APUGV, Parsley PARCR, Caraway CRYCA	All umbelliferous	Lettuce LACSS All brassicas	
<i>Phyllotreta cruciferae</i> PHYECR	Flea beetles	All umbelliferous		All brassicas*	
<i>Napomyza carotae</i> , NAPOCA	Mining fly (damaging roots)	Carrot DAUCA or Celeriac APUGR or Celery APUGV	All umbelliferous	Lettuce LACSA, Lambs lettuce VLLLO	Herbs Ornamentals Leafy brassicas
<i>Liriomyza</i> sp. LIRISP, <i>Euleia</i> sp. (= <i>Philophylla</i> sp.) 1EULIG	Mining fly (damaging leaves)				
<i>Trioza apicalis</i> , TRIZAP	Carrot psyllid	Carrot DAUCA	Parsnips PAVSA		
<i>Cixius wagneri</i> CIXIWA	Leafhopper	Celeriac APUGR	Carrot DAUSS, Fennel FOESS	Strawberry FRASS Ornamentals	Herbs
The following extrapolation possibilities are proposed to be addressed in tables covering generic pests					
<i>Agrotis ipsilon</i> AGROYP; <i>Agrotis segetum</i> AGROSE; <i>Euxoa nigricans</i> , EUXONI; Noctua pronuba, NOCTPR	Noctuidae	Carrot DAUCA			
<i>Tipula oleracea</i> TIPUOL, <i>Tipula paludosa</i> TIPUPA	Tipulidae	Carrot DAUCA		Wintercereals	

<i>Heterodera carotae</i> <i>Meloidogyne hapla</i> , <i>M. chitwoodi</i> , <i>M. fallax</i> <i>Pratylenchus penetrans</i> <i>Ditylenchus dipsaci</i> <i>Rotylenchus uniformis</i> <i>Paratylenchus bukowinensis</i> <i>Hemicyclophora</i> spp. (Para) <i>Trichodorus</i> spp	Nematodes	Carrot DAUCA	Parsnips, celery, celeriac, fennel, parsley, caraway, coriander	Soil treatment prior to any other crop.	Soil treatment prior to any other crop.
<i>Thrips</i> sp.THRISP	Thrips	Fennel FOESS	Carrot DAUCA, Celeriac APUGR	Leek ALLPO	
<i>Lygus rugulipennis</i> and <i>L. sp</i>	Bugs	Carrot DAUCA, Celery		Cucumber CUMSC, Lettuce LACSA, Strawberry FRASS	