

EXTRAPOLATION TABLE for EFFECTIVENESS of FUNGICIDES ► DISEASES ON FRUITING VEGETABLES OF SOLANACEAE

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 REGARDING PROTECTED/OUTDOOR SITUATIONS

Please note that where crops may be grown in both protected and field situations, and where significant differences are expected in pest relevance or crop agronomy between indoor and outdoor situations, it is important to generate a proportion of the data on crops grown in both situations to ensure the product has been tested under a suitable range of typical and challenging conditions.

EXTRAPOLATION TABLE for EFFECTIVENESS of FUNGICIDES

► DISEASES ON FRUITING VEGETABLES OF SOLANACEAE

LYPES Tomato *Solanum lycopersicum*, SOLME Aubergine *Solanum melongena*, CPSAN Sweet Pepper *Capsicum annuum*, CPSFR Chilli pepper *Capsicum frutescens*, PHYSS *Physalis* sp., SOLMU Pepino *Solanum muricatum*

Pests		Crops: within Fruiting Vegetables of Solanaceae		Crops: outside the Fruiting Vegetables of Solanaceae	
1	2	3	4	5	6
Pathogen species	Disease group name	Indicator crops	Extrapolation to other crops	Data from these crops can support the indicator crops (reduced data or no data *)	Extrapolation to crops (reduced or no data*)
<i>Mycovellosiella fulva</i> (= <i>Fluvia fulva</i> , <i>Cladosporium fulvum</i>) FULVFU	Leaf mould of tomato	Tomato LYPES			All cucurbit crops 1CUCF, Spinach SPQOL
<i>Leveillula taurica</i> LEVETA	Powdery mildew	Tomato LYPES	Aubergine SOLME, Sweet pepper CPSAN, Chilli pepper CPSFR		Seed crops, Chicory CICIN
<i>Oidium neolyopersici</i> OIDINL	Powdery mildew	Tomato LYPES	Aubergine SOLME		Tobacco NIOSS; Lambs Lettuce VLLLO
<i>Alternaria</i> spp. ALTESP (<i>A. alternata</i> , <i>A. solani</i> etc.)	Early blight (leaf and stem blight and fruit rot)	Tomato LYPES	Aubergine SOLME, Sweet pepper CPSAN	Potato SOLTU, Strawberry FRASS, Beta beet BEAVX, Cucumber CUMSC, Garden Carrot DAUCS, Garden bean PHSVX, Fennel FOESS, Head cabbage BRSOX, Leek ALLPO, Oilseed rape BRNN, Onions ALLSS, Beans PHSSS	Endive CICEN, Wild lettuce LACSE, Lamb's lettuce VLLLO, Black salsify SCVHI, Herbs, Turnip BRSRR, Garden parsley PARCR, Onions ALLSS, Cucumber CUMSC, Artichoke CUYSC, Witloof chicory CICIF, Tobacco NIOSS
<i>Phytophthora infestans</i> PHYTIN	Late blight	Tomato LYPES	Aubergine SOLME	Potato SOLTU	Herbs
<i>Pyrenochaeta lycopersici</i> PYRELY	Corky root	Tomato LYPES Aubergine SOLME, Sweet	Aubergine SOLME, Sweet pepper CPSAN, Chilli	All cucurbit crops 1CUCF	Herbs, All cucurbit crops 1CUCF, Spinach SPQOL, Potato SOLTU

		pepper CPSAN, chilli pepper CPSFR	pepper CPSFR		
<i>Colletotrichum coccodes</i> COLLCC	Black root rot Black dot	Tomato LYPES Aubergine SOLME, sweet pepper CPSAN, chilli pepper CPSFR	Aubergine SOLME, Sweet pepper CPSAN, Chilli pepper CPSFR		Herbs, All cucurbit crops 1CUCF, Spinach SPQOL, Potato SOLTU
<i>Didymella lycopersici</i> DIDYLY	Didymella Stem rot	Tomato LYPES		All cucurbit crops 1CUCF	All cucurbit crops 1CUCF, Herbs
<i>Rhizoctonia spp.</i> RHIZSP	<i>Rhizoctonia</i> rot	Tomato LYPES	Aubergine SOLME, Sweet pepper CPSAN, Chilli pepper CPSFR	Strawberry FRASS, Artichoke CYUSC, Cabbage BRSOX, Lettuce LACSS, All Cucurbit Crops 1CUCF, Beta Beet BEAVX, Potato SOLTU, Garden Bean PHSVX, Leek ALLPO, Radish RAPS, Beans PHSSS	Herbs, Radish RAPS, Endive CICEN, Begonia 1BEGG, Cauliflower BRSOB, Chrysanthemum 1CHYG, African violet SNPSS, Witloof chicory CICIF, Potatoes SOLTU
The following extrapolation possibilities are proposed to be addressed in tables covering generic pests					
<i>Botrytis cinerea</i> BOTRCI, <i>Sclerotinia</i> sp. SCLESP	Grey mould, white mould	Tomato LYPES	Aubergine SOLME, Sweet pepper CPSAN, Chilli pepper CPSFR	Strawberry FRASS, All Cucurbit Crops 1CUCF, Rose ROSSS, Cabbage BRSOX, Artichoke CYUSC, Lettuce LACSS, Pea PIBSS, Potato SOLTU, Leek ALLPO, Garden Bean PHSVX, Grapes VITVI, Beans PHSSS, Proteaginous Peas	Faba Bean VICFX, Herbs, Chrysanthemum CHYIN, Christmas Flower EPHPU, Pelargonium PELSS, Sim's Azalea RHOSI, Begonia BEGGS, Hydrangea HYESS, Cyclamen CYZSS, Primrose PRISS, African Violet SNPSS, All Cucurbit Crops 1CUCF, Lettuce LACSS, Tobacco NIOSS
<i>Phytophthora nicotianae</i> PHYTNN, <i>P. capsici</i> PHYTCP, <i>P. cactorum</i> PHYTCC etc.	Blight of sweet pepper	Sweet pepper CPSAN	Aubergine SOLME, tomato LYPES, Chilli pepper CPSFR	All cucurbit crops 1CUCF	Herbs; Potted ornamentals & cut flowers

<i>Pythium</i> spp. (<i>P. ultimum</i> PYTHUL, <i>P. aphanidermatum</i> PYTHAP)	Pythium wilt	Tomato LYPES	Aubergine SOLME, Sweet pepper CPSAN, Chilli pepper CPSFR	All cucurbit crops 1CUCF, kidney bean PHSVX, beta beet BEAVX, leek ALLPO cabbage BRSOX, lettuce LACSS, Beans PHSSS	Herbs, gloxinia GOXSS, christmas flower (poinsetia) EPHPU, Potted ornamentals & cut flowers, Lettuce LACSS, Spinach SPQOL
<i>Fusarium solani</i> FUSASO	Fusarium	tomato LYPES	Aubergine SOLME, Sweet pepper CPSAN	All cucurbit crops 1CUCF	Herbs, All cucurbit crops 1CUCF
<i>Verticillium</i> spp. VERTSP	Verticillium wilt	Tomato LYPES, Aubergine SOLME, capsicum CPSSS	Chilli pepper CPSFR, Sweet pepper CPSAN,	Potato SOLTU, all cucurbit crops 1CUCF, strawberry FRASS, artichoke CYUSC, rose ROSSS, bean PHSVX, peas PIBSS, Beans PHSSS	Herbs, chrysanthemum 1CHYG, geranium 1GERG, forsythia FOSSS, brussels sprouts BRSOX, Potted ornamentals & cut flowers, cucurbits 1CUCF, tobacco NIOTA, pea PIBSS
<i>Acidovorax valerianella</i> ACVRVA, <i>Pseudomonas</i> sp., ERWICA, <i>Xanthomonas</i> sp. XANTSP	Bacterium disease	Tomato LYPES			Lettuce LACSS