Importance of clear information on the pesticide label and appropriate expression of the good agricultural practice for regulatory assessment **Christopher Lythgo**

Team leader chemistry and environmental exposure Pesticides Unit

6 November 2018





Minimum necessary for effective control



g/ha vertical or g/L + water volume/ha depending on leaf development

g/ha horizontal

Spray targeted at disease pest or weed. Usually whole orchard / grove / vineyard area is not treated



Minimum necessary for effective control



No. dispensers/ha + release rate mg/m³/h/dispenser

Not everything is sprayed



Example label directions for use

RATE OF USE

Apply RUNNER at 0.6 litre per hectare where trees are large (3 metre or greater foliar canopy height). The rate of RUNNER should be reduced in proportion to foliar canopy height to a minimum of 0.4 litre per hectare where trees are small (up to 2 metre foliar canopy height). This is equivalent to 0.04% spray (40 millilitres in 100 litres of water) using a water volume of 1500 litres per hectare for large trees or a water volume of 1000 litres per hectare for small trees. **APPLICATION**

WATER VOLUME

Apply RUNNER in 150 to 1500 litres of water per hectare (with air assistance).

It is important, particularly when spraying post-blossom, to achieve full penetration of the leaf canopy and uniform coverage of the foliage and blossoms or fruitlets.

TIMING

RUNNER must be applied early, when the Lepidopterous larvae are small, for maximum effectiveness according to the life cycles of the individual pests species.

The latest timing of application for RUNNER is 14 days before harvest.

WINTER MOTH AND TORTRIX

A spray should be applied pre-blossom from early green cluster or during blossom when the first signs of active larvae, which spin themselves into the young leaves and blossom after overwintering, are seen. In the summer (about June), another treatment can be carried out if there are larvae of the summer generation present (Tortrix only).

CODLING MOTH

A post-blossom spray should be applied on the basis of pest monitoring. The optimal application timing is from early to peak egg deposition. Codling Moth will usually require a series of follow-up treatments and RUNNER may be used for up to two of these, - see 'Number of Sprays' section. **NUMBER OF SPRAYS**

Effective larva control in top fruit usually requires several sprays of insecticide per year and RUNNER may be used for up to a maximum of three of these sprays. No more than two sprays of RUNNER should be applied consecutively (see 'Pesticide Resistance Management Strategy').



From directions for user to GAP table

			GAP rev.	, date: <mark>year-month-</mark>
			<mark>day</mark>	
PPP (product name/code):	product name / code	Formulation type:	<mark>type ^(a, b)</mark>	
Active substance 1:	active substance 1	Conc. of as 1:	<mark>conc. ^(c)</mark>	
Active substance 2:	active substance 2	Conc. of as 2:	<mark>conc. ^(c)</mark>	
Active substance:	active substance	Conc. of as:	<mark>conc. ^(c)</mark>	
Safener:	<mark>safener</mark>	Conc. of safener:	<mark>conc. ^(c)</mark>	
Synergist:	<mark>synergist</mark>	Conc. of synergist:	<mark>conc. ^(c)</mark>	
Applicant:	<mark>company</mark>	Professional use:		
Zone(s):	northern/central/southern/interzonal ^(d)	Non professional		
		use:		

Verified by MS:

<mark>yes/no</mark>

Field of use:

herbicide, fungicide, insecticide etc

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use- No. (e)	Member state(s)	Crop and/ or situation (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Method / Kind	Appl Timing / Growth stage of crop & season	ication Max. number a) per use b) per crop/ season	Min. interval between applications (days)	App kg or L product / ha a) max. rate per appl. b) max. total rate per crop/season	lication rate g or kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max	PHI (days)	Remarks: e.g. g safener/synergist per ha
1													5



Good Agricultural Practice (GAP)

- Is where in a regulatory dossier the use pattern is described / specified in a standard way
- Dose rate is specified as g or kg/ha (of both product and active substance (a.s)) with the ha being a horizontal (cropped) area
- The remarks column is where relevant assumptions are usually explained to convert the directions for use to the good agricultural practice for which risk assessments have to be completed
- E.g. of assumptions needed: Crop height, cropped row width, between crop row width (usually not a target for the application).



Dose expression of exposure assessments

- Operator exposure: g a.s./ha horizontal, product a.s. concentration, spray solution concentration
- Worker, bystander, resident exposure: g a.s./ha horizontal
- Environmental exposure (soil, groundwater, surface water, sediment, wildlife food items (insects, immature plants) : g a.s./ha horizontal



Dose expression of exposure assessments

- Consumer and domestic animal dietary exposure (mature edible plant matrices as commercially harvested)
- Technically possible to have residues trials completed and evaluated reflecting the instructions on label: g/ha vertical or g/L + water volume depending on leaf development (most scientifically robust approach)
- However as residues trials are carried out / assessed against critical GAP in N & S EU (to set MRLs) and as directions for use are currently not standardised between countries, in practice GAP table dose expression is usually used: g/ha horizontal



Research opportunity

Robust information to define realistic but conservative case vineyard / orchard / grove structures for exposure assessment for each crop

- Crop height
- Cropped row width (target for the application)
- Between crop row width (usually not a target for the application)
- Within field off target deposition (e.g. ground in row & or between rows)
- noting GAP crops can be tightly specified (table and wine grapes, eating and cider apples)

Having this information should result in, better / more representative regulatory exposure assessments



There is great diversity





Type of situation covered in current exposure assessment i.e. not so targeted application





9

Subscribe to

www.efsa.europa.eu/en/news/newsletters www.efsa.europa.eu/en/rss

Engage with careers

www.efsa.europa.eu/en/engage/careers



@methods_efsa