5 5

Mating disruption

European grapevine moth

Preventive effect - 3

The preventive effect is repeated for each period

Tox	Res	Eco	Ben
0	0	0	0

Crop cycle : P - 1 & 2

IPM works

EUCLID
Europe China Lever for IPM Demonstration

4

5

Trichogramma

European grapevine moth

Preventive effect - 3

Tox	Res	Eco	Ben
0	0	0	-2

Crop cycle : 2 to 4

IPM works

EUCLID
Europe China Lever for IPM Demonstration

3

2

Microorganisms

B.bassiana

Mites

Usable only

Curative effect - 2

Tox	Res	Eco	Ben
0	0	0	0

Crop cycle : 2 to 5

IPM works

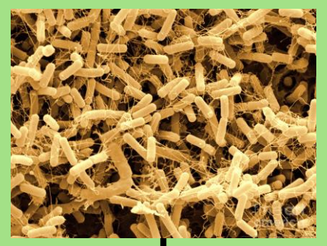
EUCLID
Europe China Lever for IPM Demonstration

1

2

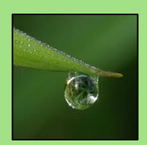
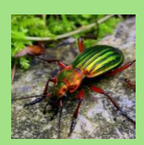
Microorganisms

Bacillus amyloliquefaciens



Downy mildew
Powdery mildew
Gray mould

Preventive effect **-2**

Tox	Res	Eco	Ben
			
0	0	0	0

Crop cycle : 3 - 4

IPM works

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Europe China Lever for IPM Demonstration

3

2

Biocontrol insecticide

Bacillus thuringiensis

European grapevine moth

Maximum 2 treatments/year.

Curative effect **- 4**

Tox	Res	Eco	Ben
0	0	+ 2	0

Crop cycle : 2 to 5

IPM works

EUCLID
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1

2

Sulphur

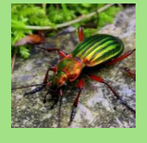
Powdery mildew
Mites

Usable except

Cost and Time x2 when

Preventive effect - 2

Curative effect -1

Tox	Res	Eco	Ben
			
+1	0	+2	+2

Crop cycle : 1 to 5

IPM works

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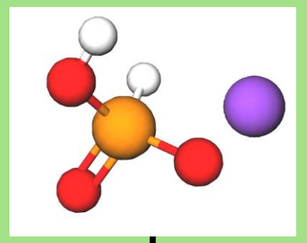
Europe China Lever for IPM Demonstration

2

2

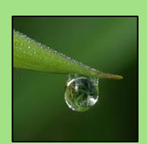
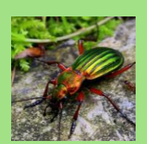
Phosphonates



Downy mildew

Preventive effect **-2**

with copper **-3**

Tox	Res	Eco	Ben
			
0	**+2**	**0**	**0**

Crop cycle : 3 - 4

IPM works

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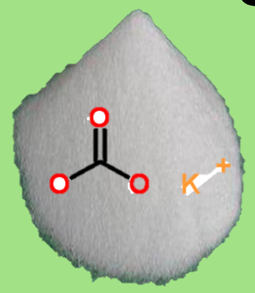
3

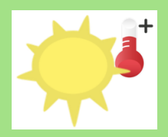
2

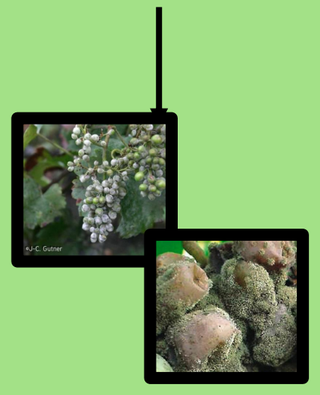
Potassium hydrogen carbonate



Powdery mildew
Gray mould

Usable except

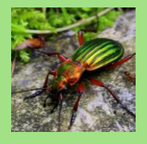




Preventive effect **- 2**

Curative effect **-1**

Only in association with sulphur

Tox	Res	Eco	Ben
			
0	**0**	**0**	**0**

Crop cycle : 1 to 5

IPM works

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3

2

Essential oil

Sweet orange

Downy mildew
Powdery mildew
Mites
Vine leafhopper

Usable only

Curative effect **-3**

Tox	Res	Eco	Ben
+2	0	+2	+2

Crop cycle : 1 to 4

IPM works

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Europe China Lever for IPM Demonstration

1

2

Paraffin oil

Mites

.

Preventive effect

Prevents primary installation

Tox	Res	Eco	Ben
+2	0	0	0

Crop cycle :

IPM works

EUCLID
Europe China Lever for IPM Demonstration

2

2

Rape oil

Mites

.

Preventive effect

Prevents primary installation

Tox	Res	Eco	Ben
0	0	0	0

Crop cycle :

IPM works

EUCLID
Europe China Lever for IPM Demonstration

3

2

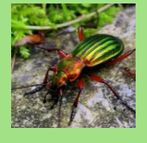
Vegetal oils

Clove, Geranium, Thyme

Gray mould

Usable only

Curative effect **-2**

Tox	Res	Eco	Ben
			
+2	**0**	**+1**	**+1**

Crop cycle : ***4 - 5***

IPM works

EUCLID

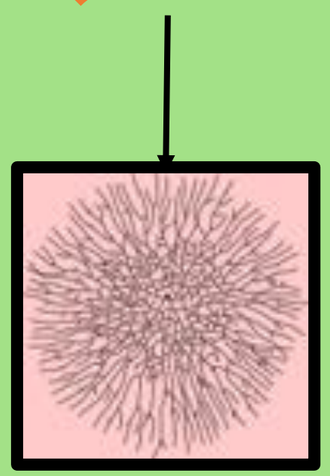
Europe China Lever for IPM Demonstration

3

2

Elicitors
Defense stimulators

Powdery mildew
Downy mildew



Usable only

Preventive effect **-2**

Tox	Res	Eco	Ben
0	**0**	**0**	**0**

Crop cycle : 1 to 4

IPM works

EUCLID
Europe China Lever for IPM Demonstration

1

2

Basic substances

Saccharose - Fructose

Downy mildew

Preventive effect -1

Tox	Res	Eco	Ben
0	0	0	0

Crop cycle : 1 to 3

IPM works

EUCLID
Europe China Lever for IPM Demonstration

1

2

Basic substances

Cow milk - Lactoserum

Powdery mildew

Preventive effect -1

Tox	Res	Eco	Ben
0	0	0	0

Crop cycle : 1 to 3

IPM works

EUCLID
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1

Per pest

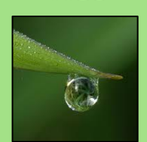
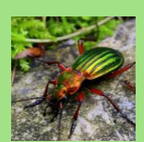
2

Basic substances

Chitosan – Mg hydroxyd

Powdery mildew
Downy mildew
Gray mould
Black rot

Preventive effect **-1**

Tox	Res	Eco	Ben
			
0	0	0	0

Crop cycle : 1 to 4

IPM works

EUCLID

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1

2

Basic substances

Urtica

Mites

Preventive effect -1

Tox	Res	Eco	Ben
0	0	0	0

Crop cycle : 3 - 4

IPM works

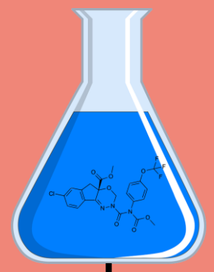
EUCLID

Europe China Lever for IPM Demonstration

1 ×

2 ×

Copper



Downy mildew
Black-rot

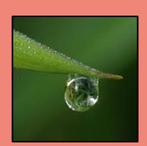
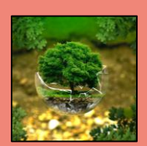
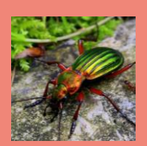
×

Cost and Time x2 when

x2 in period 4 or 5

Preventive effect - 2

Curative effect -1

Tox	Res	Eco	Ben
			
+2	+ 2 ×	+ 3	+2

Crop cycle : 1 to 5

IPM works

EUCLID
Europe China Lever for IPM Demonstration

2

2

Fungicide anti-Botrytis

Gray mould

Maximum 2 treatments/year

x2 in periods 4 and 5

Curative effect - 4

Tox	Res	Eco	Ben
+ 3	+ 4	+ 2	+ 2

Crop cycle : 3 to 5

IPM works

EUCLID
Europe China Lever for IPM Demonstration

2 (+1*)

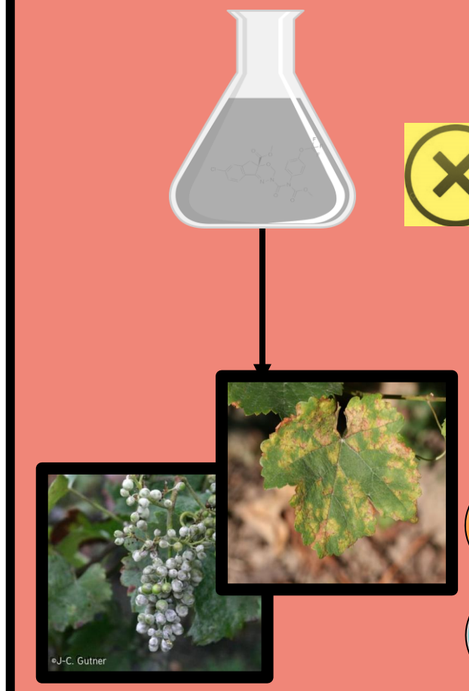
2

Polyvalent fungicide

Downy mildew
Powdery mildew
Black-rot

****for three pathogens***
Maximum 2 treatments/year

x2 in period 4 and 5



Preventive effect **- 1**

Curative effect **- 4**

Tox	Res	Eco	Ben
+ 2	+ 2	+ 2	+ 2

Crop cycle : 1 to 5

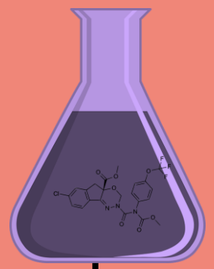
IPM works

EUCLID
Europe China Lever for IPM Demonstration

2

2

Acaricids



Mites

Maximum 2 treatments/year

Curative effect - 4

Tox	Res	Eco	Ben
+ 4	0	+ 4	+ 4

Crop cycle : 2 to 5

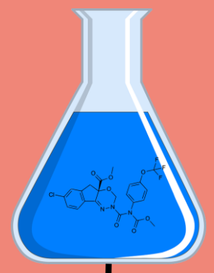
IPM works

EUCLID
Europe China Lever for IPM Demonstration

2

2

Growth regulator insecticide (ex Tebufenozide)



European grapevine moth

Maximum 2 treatments/year

Preventive effect - 3

Curative effect - 1

Tox	Res	Eco	Ben
0	0	+ 2	0

Crop cycle : 2 to 5

IPM works

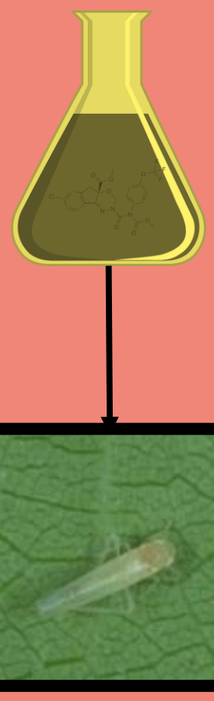
EUCLID
Europe China Lever for IPM Demonstration

1

2

Neurotoxic insecticide

Pyrethroids



European grapevine moth
Vine leafhopper

Maximum 2 treatments/year
Cost and Time x2 when

Curative effect - 4

Tox	Res	Eco	Ben
+ 4	0	+ 4	+ 4

Crop cycle : 2 to 5

IPM works

EUCLID
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3 3

Ecological management

European grapevine moth
Mites
Vine leafhopper

Preventive effect **- 2**

Curative effect **- 1**

Tox	Res	Eco	Ben
0	0	-1	- 2

Crop cycle : *P* *- 1 -* 2

IPM works

EUCLID
Europe China Lever for IPM Demonstration

3

5

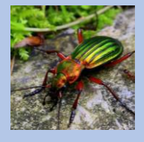
Green pruning

Downy mildew
Powdery mildew
Gray mould
Black rot

Maximum 2 reductions or pruning / year
Not 2 periods in a row

Preventive effect **-2**

Curative effect **-1**

Tox	Res	Eco	Ben
			
0	**0**	**0**	**0**

Crop cycle : 3 to 5

IPM works

EUCLID
Europe China Lever for IPM Demonstration

2

4

Reducing Vigour of the vine

Mites
Powdery mildew
Gray mould

Maximum 2 reductions
or pruning / year
Not 2 periods in a row

Preventive effect **-2**

Tox	Res	Eco	Ben
0	0	0	0

Crop cycle : 1 to 4

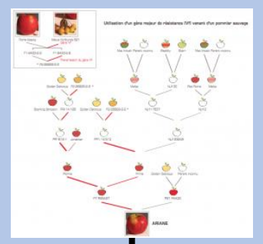
IPM works

EUCLID
Europe China Lever for IPM Demonstration

5

0

Resistant variety



Powdery & Downy mildews

Preventive effect

- At each period – 3

- You have to combine with other solutions twice during the season to keep the efficacy

> if not - 2

Tox	Res	Eco	Ben
0	0	0	0

Crop cycle : P

IPM works

EUCLID

Europe China Lever for IPM Demonstration

3

2

Eco-Grazing

European grapevine moth

Preventive effect -2

Curative effect -1

Tox	Res	Eco	Ben
0	0	0	0

Crop cycle : 1 to 3

IPM works

EUCLID

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3 3

AEI > birds & chiropterans

European grapevine moth

Preventive effect -2

Tox	Res	Eco	Ben
0	0	-1	-1

Crop cycle :

IPM works

EUCLID
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4

4

Viti tunnel

Downy mildew
Gray mould

Powdery mildew

+1 ***at each period***

Preventive effect -2
At each period

Tox	Res	Eco	Ben
0	0	0	0

Crop cycle : 1 to 4

IPM works

EUCLID
Europe China Lever for IPM Demonstration

4

4

UV-C

Powdery mildew
Downy mildew

Preventive effect *-4*

With copper for
Downy mildew

Tox	Res	Eco	Ben
0	0	0	0

Crop cycle : 1 to 4

IPM works

EUCLID
Europe China Lever for IPM Demonstration

2

3

Leaf pick-up

Downy mildew
Black rot

Preventive effect

Prevents primary installation

Tox	Res	Eco	Ben
0	0	0	0

Crop cycle : P

IPM works

EUCLID
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2 1

Augmentorium

European grapevine moth

Preventive effect

Prevents primary installation

Tox	Res	Eco	Ben
0	0	0	+1

Crop cycle : 1 to 4

IPM works

EUCLID
Europe China Lever for IPM Demonstration

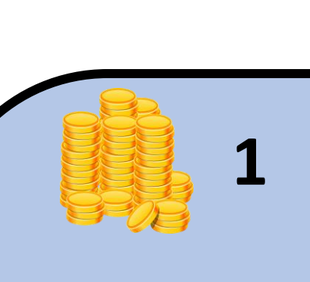
1

2

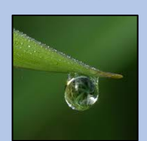
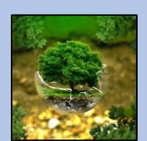
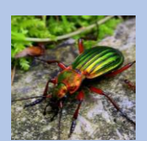
Rock powder

Kaolin

Vine leafhopper



Preventive effect **-2**

Tox	Res	Eco	Ben
			
+1	**0**	**0**	**0**

Crop cycle : 3 - 4

IPM works

EUCLID

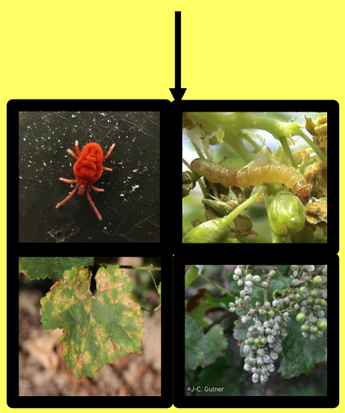
Europe China Lever for IPM Demonstration

2

1

Decision Support System (DSS)

Mites
European grapevine moth
Downy mildew
Powdery mildew



Give the possibility to play “Preventive measures” next turn after drawing a weather card

Crop cycle : 1 to 4

IPM works

EUCLID
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+1

+1

For each pest

Spraying Decision Support System

All

Play with pesticide or biocontrol product with cumulative effects

Tox	Res	Eco	Ben
0	-1	-1	-1

Crop cycle : 1 to 5

IPM works

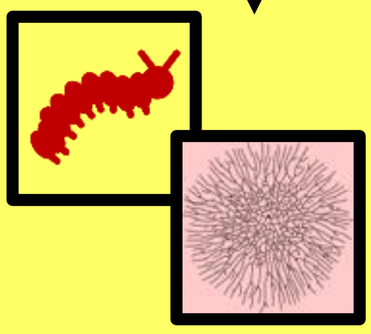
EUCLID
Europe China Lever for IPM Demonstration

+2

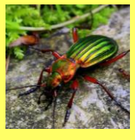
+1

Low drift sprayer

All



Play with pesticide or biocontrol product to reduce impacts

Tox	Res	Eco	Ben
			
-1	0	-1	-1

Crop cycle : 1-5

IPM works

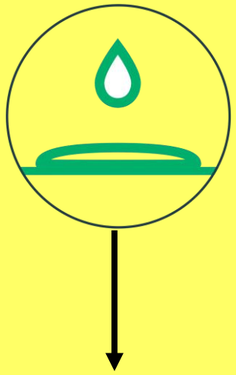
EUCLID
Europe China Lever for IPM Demonstration

+1

0

Adjuvant

All



Play with biocontrol product to be applicable by dry weather

Crop cycle : 1 to 5

IPM works

EUCLID

Europe China Lever for IPM Demonstration

+2

0 /1

Alone

Biostimulant

All

Preventative effect

Alone if risk ≤0 or pressure = 0

-1

Can increase the efficiency of microorganisms or natural substances

+1

maintains the durability of the variety resistance over time

1 solution

Crop cycle : 1 to 4

IPM works

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2

FWF
(Farm Work Firm)

+1

The additional unit of time
must be spent during the period

Crop cycle : **1 to 5**

IPM works

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0

Associated treatments

+1

You win 1 time unit when you spray with 2 biocontrol or 2 chemicals products

Crop cycle : 1 to 5

IPM works

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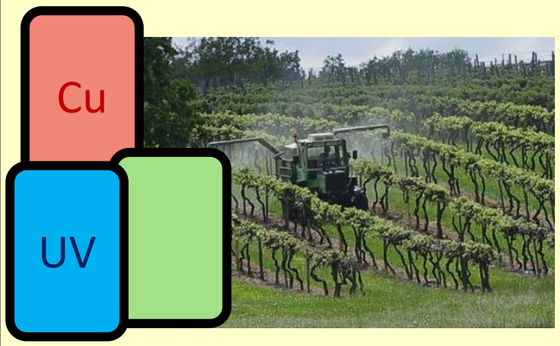
0

Biocontrol product or UV + ½ dose of copper



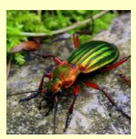
Downy mildew

Preventative effect

+1 ***Copper efficacy is low***

+1 *You win 1 time unit when you spray these associations*

And you reduce impact of copper

Tox	Res	Eco	Ben
			
-1	**-1**	**-1**	**-1**

Periods : 1 to 5

IPM works

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