



## ***Mating disruption***



***European  
grapevine moth***



***Preventative effect - 3***

***The preventive effect  
is repeated for each period***



Crop cycle :





# Trichogramma



*European  
grapevine moth*



*Usable except*



*Impossible with  
Pyrethroids*



*Preventative effect - 3*



0



Crop cycle : 3 & 4







# Microorganisms

*B.bassiana*



*Mites*



*Usable only*



*Curative effect*

- 2



Crop cycle : 3 to 5






# ***Microorganisms***

## ***Bacillus amyloliquefaciens***



 ***Downy mildew***  
***Powdery mildew***  
***Gray mould***

 ***Preventative effect*** -2

 0

 **Crop cycle : 3 - 4**





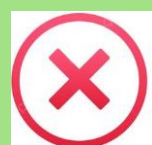


# Biocontrol insecticide

*Bacillus thuringiensis*



*European  
grapevine moth*

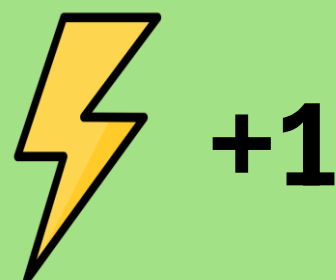


*Maximum 2  
treatments/year.*



*Curative effect*

- 4



Crop cycle : 3 to 5





# Sulphur

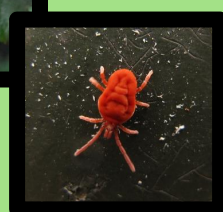


*Powdery mildew  
Mites*

*Usable except*



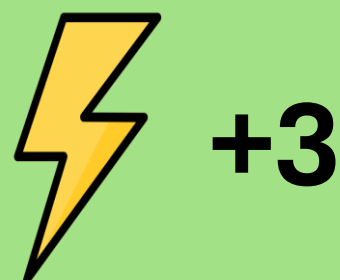
*Cost and Time x2 when*



*Preventative effect - 2*



*Curative effect -1*



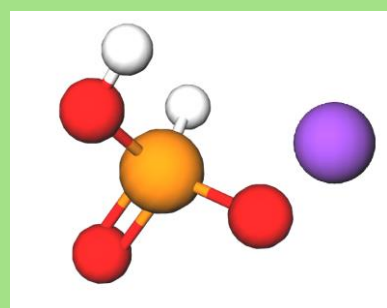
Crop cycle : 3 to 5







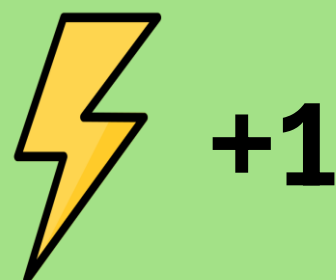
# Phosphonates



*Downy mildew*



*Preventative effect* -2  
*with copper* -3



+1

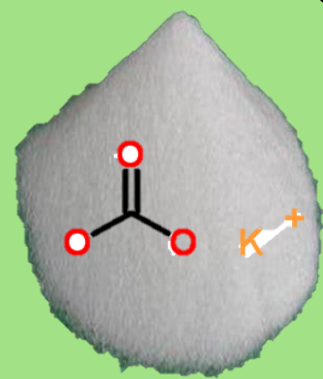


Crop cycle : 3 - 4





# Potassium hydrogen carbonate



*Powdery mildew*  
*Gray mould*

*Usable except*



*Preventative effect* - 2



*Curative effect* -1  
*Only in association with sulphur*



Crop cycle : 3 to 5







# Essential oil

*Sweet orange*



*Downy mildew*  
*Powdery mildew*  
*Mites*  
*Vine leafhopper*

*Usable only*



*Curative effect*

-3



+3



Crop cycle : 3 & 4





## Paraffin oil

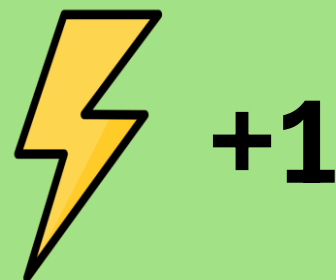


*Mites*



*Preventative effect*

*Prevents primary  
installation*



Crop cycle :







## Rape oil



*Mites*



*Preventative effect*

*Prevents primary  
installation*



Crop cycle :





# ***Vegetal oils***

*Clove, Geranium, Thyme*



***Gray mould***

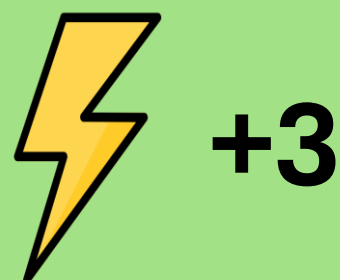


***Usable only***



***Curative effect***

**-2**



**Crop cycle : 4 - 5**







## ***Elicitors***

### ***Defense stimulators***



***Powdery mildew***  
***Downy mildew***



***Usable only***



***Preventative effect -2***



**Crop cycle : 3 & 4**





# ***Basic substances***

*Saccharose - Fructose*



***Downy mildew***



***Preventative effect -1***



**Crop cycle : 3**







# ***Basic substances***

*Cow milk - Lactoserum*



***Powdery mildew***



***Preventative effect -1***



**Crop cycle : 3**





1

Per  
pest

## ***Basic substances***

*Chitosan – Mg hydroxyd*



*Powdery mildew*

*Downy mildew*

*Gray mould*

*Black rot*



*Preventative effect -1*



0



Crop cycle : 3 & 4







# ***Basic substance***

*Urtica*



***Mites***



***Preventative effect -1***



**Crop cycle : 3 - 4**



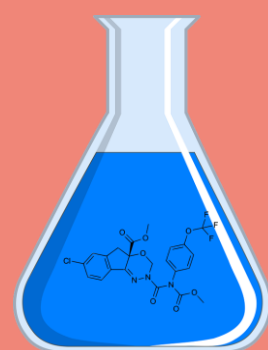
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## Copper



**Downy mildew**  
**Black-rot**

*Cost and Time x2 when*



**+2 in period 4 and 5**



**Preventative effect - 2**



**Curative effect -1**



**4**



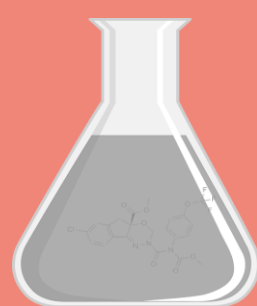
**Crop cycle : 3 to 5**







# *Fungicide anti-Botrytis*



*Gray mould*

*Maximum 2 treatments/year*



*x2 in periods 4 and 5*



*Curative effect*

- 4



6



Crop cycle : 3 to 5



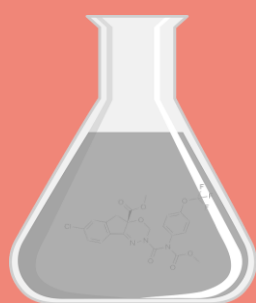


2 (+1\*)

# Polyvalent fungicide



Downy mildew  
Powdery mildew  
Black-rot



\*for three pathogens  
Maximum 2 treatments/year



x2 in period 4 and 5



Preventative effect - 1



Curative effect - 4



4



Crop cycle : 3 to 5

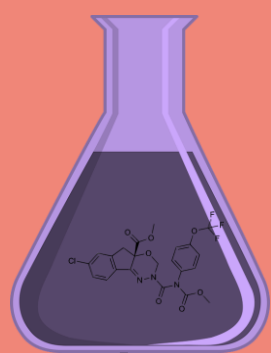






2

# Acaricides



*Mites*



*Maximum 2 treatments/year*



*Curative effect*

- 4



6

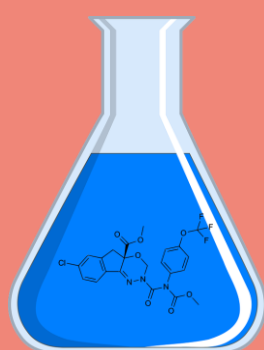


Crop cycle : 3 to 5





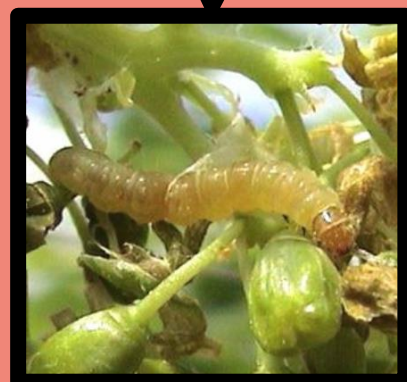
## ***Growth regulator insecticide (ex Tebufenozide)***



***European  
grapevine moth***



***Maximum 2 treatments/year***



***Preventative effect - 3***



***Curative effect - 1***



**Crop cycle : 3 to 5**



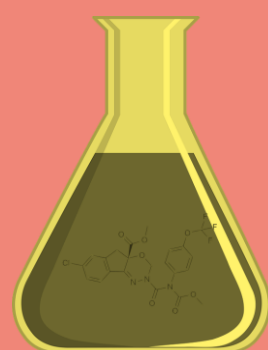





## ***Neurotoxic insecticide*** ***Pyrethroids***



***European***  
***grapevine moth***  
***Vine leafhopper***

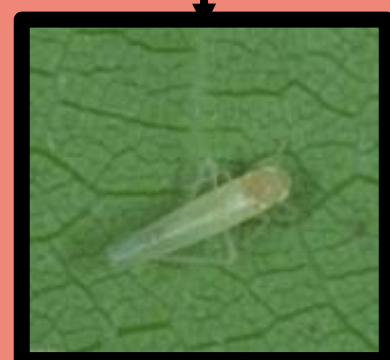


***Maximum 2 treatments/year***  
***Cost and Time x2 when*** 



***Curative effect***

**- 4**



**Crop cycle : 3 to 5**

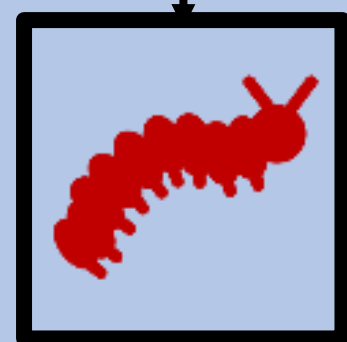




# ***Ecological management***



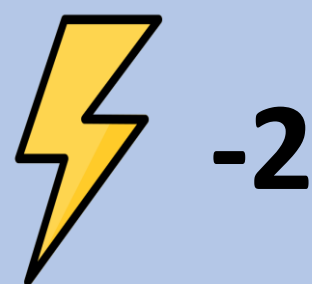
***European  
grapevine moth  
Mites  
Vine leafhopper***



***Preventative effect - 2***



***Curative effect - 1***



Crop cycle :

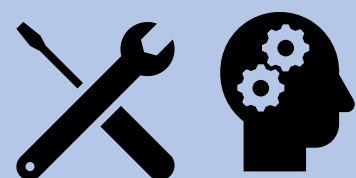






*For each product*

# ***Spraying Decision Support System***



*Mites*

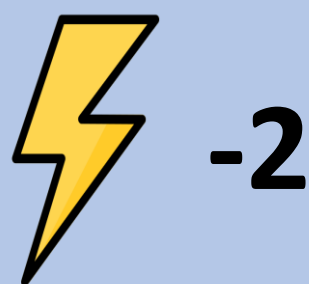
*European grapevine moth*

*Downy mildew*

*Powdery mildew*



***Play with pesticide or  
biocontrol product to  
reduce impacts***



**Crop cycle : 3 to 5**

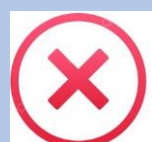




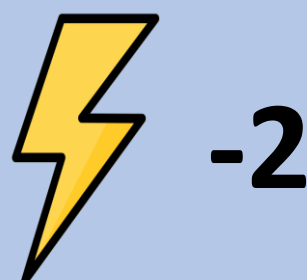
## *Low drift sprayer*



*All*



*Play with pesticide or  
biocontrol product to  
reduce impacts*



Crop cycle : 3 to 5







# Green pruning



*Downy mildew  
Powdery mildew  
Gray mould  
Black rot*



*Only 1 reduction or  
prunning / year*



*Preventative effect -2*

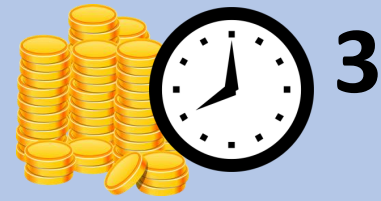


*Curative effect -1*



Crop cycle : 3 to 5





## *Reducing Vigour of the vine*



*Mites*  
*Powdery mildew*  
*Gray mould*



*Only 1 reduction or pruning / year*



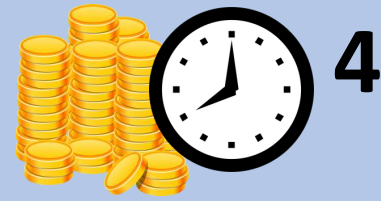
*Preventative effect -2*



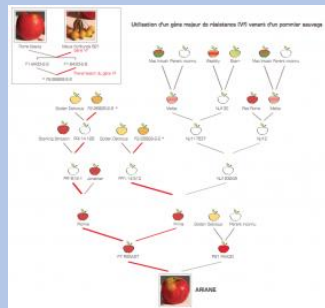
Crop cycle : 3 & 4







# Resistant variety



**Powdery &  
Downy mildews**



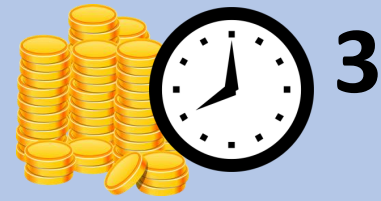
**Preventative effect**

- At each period – 3
- You have to combine with other solutions twice during the season to keep the efficacy > if not - 2



Crop cycle :





## Eco-Grazing



*European  
grapevine moth*



*Preventative effect -2*



*Curative effect -1*



Crop cycle : 3



**EUCLID**

Europe China Lever for IPM Demonstration







***AEI > birds & chiropterans***



***European grapevine moth***



***Preventative effect -2***



**-1**



**Crop cycle :**





+1

# Adjuvant



All



*Play with biocontrol product to  
be applicable by dry weather*



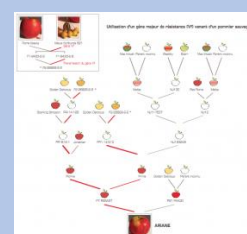
Crop cycle : 3 to 5







# Biostimulant



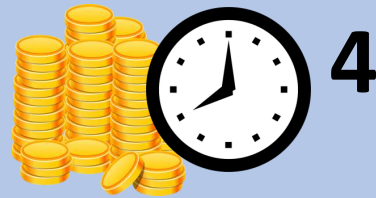
*maintains the durability of the variety resistance over time*



Crop cycle : 3 & 4

1 solution





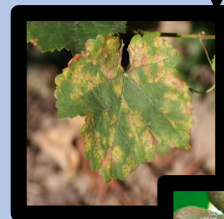
## *Viti tunnel*



*Downy mildew*  
*Gray mould*



*Powdery mildew*  
**+1** *at each period*



*Preventative effect* -2  
**At each period**



Crop cycle :







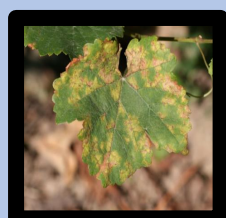
**UV-C**



*Powdery mildew  
Downy mildew*



*Preventative effect -4*



*With copper for  
Downy mildew*



Crop cycle : 3 - 4

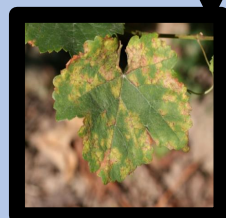




## Leaf pick-up



**Downy mildew**  
**Black rot**



**Preventative effect**

**Prevents primary  
installation**



Crop cycle :



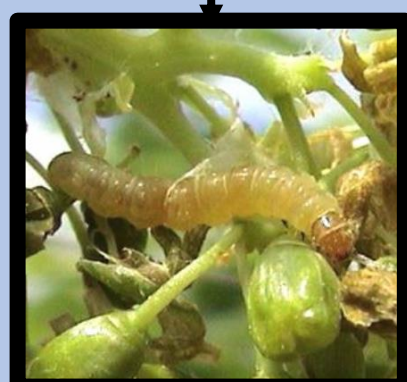




# Augmentorium

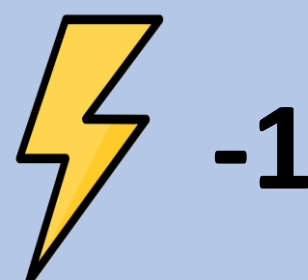


*European  
grapevine moth*



*Preventative effect*

*Prevents primary  
installation*



Crop cycle :  3 to 4





# Rock powder


*Kaolin*



 *Vine leafhopper*



 *Preventative effect* -2

 +1

 Crop cycle : 3 - 4







## ***Associated treatments***



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

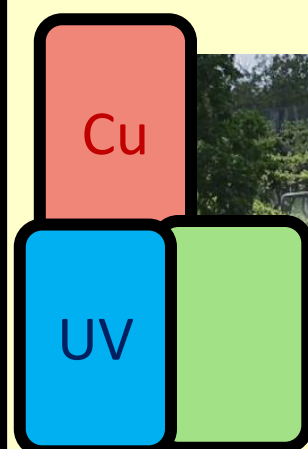


**Crop cycle : 1 to 5**





## ***Biocontrol product or UV + 1/2 dose of copper***



**Downy mildew**

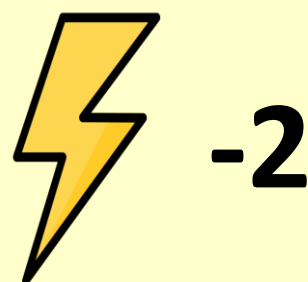


***Preventative effect***

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



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



*And you reduce impact of copper*



**Periods : 3 to 5**

