



Auxiliary insect release



Farmer's name

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Name of the farm

Château Mire l'étang
DEPHY farm group



Country

France



Description of the farm context

Only one farm is presented here, but there are half a dozen of farms using this NA is the DEPHY farm group (French national action plan). Château Mire l'étang is a wine estate of 50ha in the South of France in a dry climate (Mediterranean) with no irrigation. It produces high value white and red wines. It's important to understand that it's an innovative farm, including in a group of farms with the facilitation of the same advisor since 2008.

Partner Organization

A key voice for agriculture and rural communities, the CRAO serves as the consultative and representative body for agricultural interests. It promotes a strategic vision for a sustainable, resilient, and competitive wine sector in Occitanie.

The CRAO also promotes innovation transfer through partnerships, supports agroecological collectives, and contributes to the training of advisors and farmers.



AdvisoryNetPEST

The **AdvisoryNetPEST** project aims to create a **network** and **upgrade advisory services** across the EU to increase the sharing of knowledge and the **adoption of innovative solutions to reduce the use and risks of pesticides** (RURP) in all **EU Member States**, enabling the agricultural sector to achieve the targets proposed by the Farm to Fork Strategy.



[AdvisoryNetPEST](https://www.advisorynetpest.eu)



www.advisorynetpest.eu

The practices identified in this project are called 'Novel Approaches' and abbreviated as 'NA'

THE TECHNIQUE

Short Description:

The release of trichogramma to control cyptobables without using insecticides

Crop Sector:

Viticulture

Targeted pest and diseases:

Cryptoblabes

Objective of the NA:

The release of auxiliaries enables the farmer to control the targeted pest. This method therefore implies to change the way to control pest, as no insecticides can be used conjointly, as they could be detrimental to the action of auxiliaries. To ensure a good efficiency, application conditions are key to the success, and enable a better grape quality (less sorting) and higher biodiversity in the vineyard.

Level of practice adoption across the country:

1 2 3 4



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Expectations regarding RURP

*RURP : Reduction of Use and Risks of Pesticides

Cryptobables (figure 1) is a new pest in France. Its dissemination is facilitated by climate change. Finding a sustainable way to control it is a priority. The auxiliaries are substitutes to insecticides. The release of Trichogramma (figure 2) is a substitution for one to three insecticides uses.



Methods/strategy of application in the farm

Two methods are tried in the DEPHY group farms (figures 3 and 4). Both are released twice a year in the vineyards : 100 diffusers per hectare. The main challenge is the timing of these releases. They have to be done at the right moment : when cryptobables larvae are present and when there is sulfur spraying.



Figure 1: Cryptobables damages



Key success factors

Trainings on both the pest AND the NA are important to implement trichogrammas. But according to the farmer, the main key success factor is to have a group of peer to peer exchanges facilitated by an advisor they have trust for many years now.



Improvements of the NA

Improving the NA is mostly about dissemination : the more it would be used, the more it will be used efficiently and moreover, it will be cheaper and more easy to find.



Resources and skills needed to adopt the NA

This NA does not take more time than spraying but it implies training the team (employees) in detecting the pest which can be extra work at the beginning of the implementation. The availability of the Trichogramma can be complicated. Advisor services support/group to help (peer to peer exchanges) is important for this group in order to better understanding the pest and the NA.

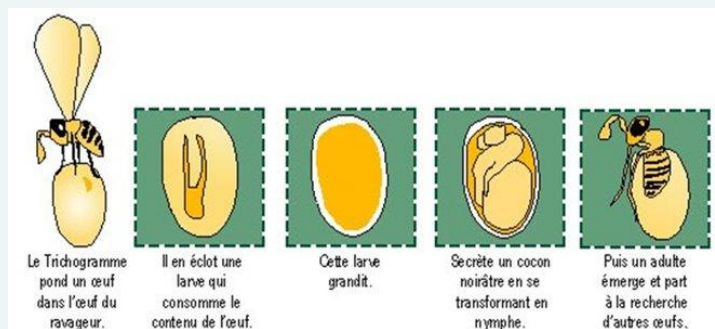


Figure 2 : action mechanism of the parasite



Figure 3 : T protect diffusers to put on the floor



Figure 4 : Tricholine Vitis diffusers ti put on the vines



Advice from the Advisor

Understanding the new pest & knowing how is the best moment/way to use the biocontrol is the key to best use this NA. Regular opportunities to exchange on technical topics with other farmers, combined with the continuity of support from a trusted advisor over the years, genuinely fosters innovation and encourages the adoption of new practices.



Farmers Testimony

Peer to peer exchanges and na advisor you can trust and who helps you on a large period of time is a releive to try and test ne things, especially concerning RURP.

Money is also a key factor : if the advice and/or the solution is too expensive it will more thant complicated to broadcast.



Policies and Regulatory Support

Innovative groups that are partly funded by the NAP are helpful in all the steps of the NA, with experienced advisors :

- testing the NA in real conditions (field)
- adapting, understanding
- disseminating the NA once tested



Social and Cultural Acceptance

The social acceptance of this NA is more about knowing it works in the fields than about the NA itself.

Auxiliaries have good press for the public and the farmers but their efficiency needs to be well documented.



BENEFITS

The benefits are plentiful :

- It works better than insecticides
- It avoids a least one treatment
- It doesnt take more time
- The image for consumers is more than good.



BOUNDARIES

It seems necessary to have advisors to make the link between farmers, build trust to have theme share between them

To implement this NA in your country, you need to make sure the regulation (national) authorizes the marketing of this solution and that the product is available

To go further on NA replication:

Replicating the NA requires a supportive ecosystem combining : harmonised regulations, market access, field validation of solutions, dedicated funding for innovation groups, farmer training, and long-term advisory support to build trust and promote knowledge exchange.

Demonstrating the effectiveness of biocontrol solutions through on-farm trials and farmer-led innovation groups is essential to overcome scepticism and encourage adoption. Experienced advisors play a key role in helping farmers adapt solutions to local conditions, while successful case studies and peer-to-peer learning can accelerate dissemination and uptake. Ensuring that products are authorised and available on the market is also a prerequisite for scaling up the approach across regions and countries.

Systemic Feasibility Analysis: Expert insights from Literature and Field Data

CRITERIUM	INDICATOR	INDICATOR SCORE	EVALUATION
Pesticide use reduction level	Reduction of the applied volume of pesticides	high reduction (>25%) moderate reduction (10-25%) low reduction (<10%) no reduction	😊
Effectiveness of controlling the target pest/diseases/weed	Percentage reduction of the target pest/weed infestation or of the damage caused by the target disease	high reduction (>60%) moderate reduction (30-60%) low reduction (<30%) no reduction	😊
Biodiversity	Impact on aquatic organisms	-- / - / 0 / + / ++	😊
	Impact on bees	-- / - / 0 / + / ++	😊
	Impact on arthropods other than bees	-- / - / 0 / + / ++	😊
	Impact on non-target soil micro-organisms	-- / - / 0 / + / ++	😊
Working conditions	Knowledge requirements	high training level moderate training level low training level no training	😞
	Impact on working-time	no impact	😊
	Impact on human health	high risk moderate risk low risk no risk	😊
	Risk mitigation on operator/employee exposure	high mitigation moderate mitigation low mitigation no mitigation	😊
Costs	Required level of investment	> EUR 100.000 EUR 50.000 - 100.000 EUR 10.000 - 50.000 < EUR 10.000	😊
	Impact on various types of variable costs: fuel, energy, labour, water, consumables...	€ 170 per hectare instead of € 48-96 per hectare	😞
Outputs	Impact on crop quality	-- / - / 0 / + / ++	😊

Impact Highlights

The novel approach (NA) using auxiliary insect release in viticulture provides a pesticide-free method for controlling Cryptoblabes and Coccoidea through the deployment of Trichogramma, beetles, and Chrysops.

This strategy significantly reduces pesticide use and improves grape quality, while offering substantial benefits for biodiversity, positively affecting bees, aquatic organisms, and other arthropods, and reducing health risks for both consumers and applicators. However, its effectiveness can be variable and is highly dependent on precise application conditions.

Compared to the common approach of one to two insecticide treatments, the NA requires higher application costs and advanced knowledge, making training the primary adoption barrier.

Evaluation:

