

EVALUATION REPORT OF THE UNIT  
LVBE - Laboratoire Vigne Biotechnologie et  
Environnement

UNDER THE SUPERVISION OF THE  
FOLLOWING ESTABLISHMENTS AND  
ORGANISMS:

Université de Haute-Alsace - UHA

Université de Reims Champagne-Ardenne -  
URCA

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**EVALUATION CAMPAIGN 2022-2023**  
GROUP C

Report published on March, 30 2023



In the name of the expert committee<sup>1</sup>:

Michele Morgante, Chairman of the committee

For the Hcéres<sup>2</sup>:

Thierry Coulhon, President

Under the decree n° 2021-1536 of 29th November 2021:

<sup>1</sup> The evaluation reports "are signed by the chairperson of the expert committee". (Article 11, paragraph 2);

<sup>2</sup> The president of the Hcéres "countersigns the evaluation reports established by the expert committee and signed by their chairperson." (Article 8, paragraph 5).

This report is the result of the unit's evaluation by the expert committee, the composition of which is specified below. The appreciations it contains are the expression of the independent and collegial deliberation of this committee. The numbers in this report are the certified exact data extracted from the deposited files by the supervising body on behalf of the unit.

## MEMBERS OF THE EXPERT COMMITTEE

**Chairperson:** Mr Michele Morgante, University of Udine, Italy

**Experts:** Mr Régis Gougeon, Université de Bourgogne (representative of CNU)  
Mr François Laurens, IRHS, Beaucouzé (supporting personnel)  
Mr Philippe Maurice Jacques, Université de Liège, Belgique

## HCÉRES REPRESENTATIVE

Mr Christophe D'Hulst

## CHARACTERISATION OF THE UNIT

- Name: Laboratoire Vigne Biotechnologies et Environnement
- Acronym: LVBE
- Label and number: EA 3991
- Composition of the executive team: M. Christophe Bertsch

## SCIENTIFIC PANELS OF THE UNIT

SVE2 Productions végétales et animales (agronomie), biologie végétale et animale, biotechnologie et ingénierie des biosystèmes

## THEMES OF THE UNIT

The LBVE research unit is structured as a single team that is located in two different sites, one in Colmar at the University of Haute Alsace and the other at the University of Reims. The research themes that the unit is focusing on are currently three: grapevine trunk diseases in the vine; design and development of new environmentally friendly methods of disease management and finally oenology. The main focus is on Esca disease and in particular on understanding the aetiology of the disease and the different roles the different pathogenic agents are playing in relation to the symptoms displayed by the affected plants. The unit has been severely restructured since the last evaluation exercise because it went from being structured in 3 teams named "Cryptogamic Diseases and Vines," "Vine Defences Stimulation" and "Biological Soil Decontamination," respectively to being organized in a single team as a response to the recommendations made in the previous report.

## HISTORIC AND GEOGRAPHICAL LOCATION OF THE UNIT

The current LVBE results from the fusion, in 2019, of two laboratories, the previous LBVE of UHA based in Colmar in a building created in 2004 and the LOCA from URCA. There is no information in the report about the history and localisation of the LOCA. Regarding the history of LVBE, it results from the fusion in 2009 of a team dedicated to Grapevine and defense and another team working in the field of biological soil depollution. Three teams were organized with the following thematics: "Cryptogamic grapevine diseases," "Vine Defences Stimulation" and "Biological Soil Decontamination." As previously mentioned, following the previous evaluation, they have decided to focus their scientific strengths on the ESCA.

## RESEARCH ENVIRONMENT OF THE UNIT

The Laboratoire Vigne Biotechnologie et Environnement (LVBE) is placed under the supervision of the University of Haute-Alsace (UHA), and since 2019, under the additional supervision of the University of Reims Champagne-Ardenne (URCA). It also hosts one permanent from University of Strasbourg. Research at UHA is split into three major fields, and LVBE is attached to the "Chemistry, Functional Materials & Environment" field. Research at LVBE is conducted by "teacher-researchers", who therefore also assume teaching duties at Bachelor and Master degrees, including in particular at the French National Diploma of Enologist (DNO) held by URCA. UHA (former region Alsace) and URCA (former region Champagne Ardenne) belong to the Grand-Est region. In Colmar, LVBE evolves within the frame of a regional cluster, the "Biopole of Excellence in Agronomy and Viticulture," which brings together local, national and one international actor related to research, development and socio-economy of agriculture, including the French Wine and Vine Institute (IFV), the French National Research Institute for agriculture, food and the environment (INRAE), the Interprofessional Council of Alsace Wines (CIVA), the Cross-border Institute for Application and Development of Agronomic Science (ITADA). At this regional scale, LVBE is backed by several economic partners, including in particular the SATT Conectus, competitiveness clusters, or the Fondation Partenariale de Haute Alsace. LVBE is also at the intersection point between France, Germany and Switzerland, and is therefore eligible to cross-border Interreg programs. LVBE is part of an international network, comprising five German partners. In Reims, LVBE evolves within the specific socio-economic environment composed by Champagne houses.

LVBE does not claim any involvement in a structure created by the PIA, and (in the 2016-2021 period) is not involved in a TGIR or a platform.

## UNIT WORKFORCE: in physical persons at 31/12/2021

|  |           |
|--|-----------|
| <b>Permanent personnel in active employment</b>  |           |
| Professors and associate professors  | 3         |
| Lecturer and associate lecturer  | 18        |
| Senior scientist (Directeur de recherche, DR) and associate                                    | 0         |
| Scientist (Chargé de recherche, CR) and associate  | 0         |
| Other scientists (Chercheurs des EPIC et autres organismes, fondations ou entreprises privées) | 0         |
| Research supporting personnel (PAR)  | 6         |
| <b>Subtotal permanent personnel in active employment</b>                                       | <b>27</b> |
| Non-permanent teacher-researchers, researchers and associates                                  | 1         |
| Non-permanent research supporting personnel (PAR)  | 2         |
| Post-docs  | 5         |
| PhD Students   | 6         |
| <b>Subtotal non-permanent personnel</b>  | <b>14</b> |
| <b>Total</b>   | <b>41</b> |

DISTRIBUTION OF THE UNIT'S PERMANENTS BY EMPLOYER: NON-TUTORSHIP EMPLOYERS ARE GROUPED UNDER THE HEADING "OTHERS".

| Employer                                 | EC        | C        | PAR      |
|--|-----------|----------|----------|
| Université de Haute-Alsace               | 14        | 0        | 4        |
| Université de Reims<br>Champagne-Ardenne | 6         | 0        | 2        |
| Université de Strasbourg                 | 1         | 0        | 0        |
| <b>Total</b>                             | <b>21</b> | <b>0</b> | <b>6</b> |

## UNIT BUDGET

|  |              |
|--|--------------|
| Recurrent budget excluding wage bill allocated by parent institutions (total over 6 years)   | 288          |
| Own resources obtained from regional calls for projects (total over 6 years of sums obtained from AAP idex, i-site, CPER, territorial authorities, etc.)                               | 0            |
| Own resources obtained from national calls for projects (total over 6 years of sums obtained on AAP ONR, PIA, ANR, FRM, INCa, etc.)  | 2 649        |
| Own resources obtained from international call for projects (total over 6 years of sums obtained)  | 452          |
| Own resources issued from the valorisation, transfer and industrial collaboration (total over 6 years of sums obtained through contracts, patents, service activities, services, etc.) | 0            |
| <b>Total in euros (k€)</b>   | <b>3 389</b> |

## GLOBAL ASSESSMENT

The actual LVBE results from the fusion, in 2019, of two laboratories, the previous LBVE of University of Haute-Alsace (UHA) based in Colmar in a building created in 2004 and the LOCA from University of Reims Champagne-Ardenne (URCA). It is under the supervision of the UHA, and since 2019, under the additional supervision of the URCA. The LVBE research unit is structured as a single team that is located in two different sites, one in Colmar at the UHA and the other at the URCA. The research themes that the unit is focusing on are currently three: grapevine trunk diseases in the vine; design and development of new environmentally friendly methods of disease management and finally oenology. The main focus is on Esca disease and in particular on understanding the aetiology of the disease and the different roles the different pathogenic agents are playing in relation to the symptoms displayed by the affected plants. The unit has been severely restructured since the last evaluation exercise because it went from being structured in 3 teams named "Cryptogamic Diseases and Vines", "Vine Defences Stimulation" and "Biological Soil Decontamination", respectively to being organized in a single team as a response to the recommendations made in the previous Hcéres report. The reasons that led to the addition of the oenology group from URCA are not provided and very little evidence of scientific interaction between the two sites is provided.

The profile, resources and organisation of the unit are rated as good. The unit has a good activity profile, in line with the policy of UHA and URCA and in particular with the socio-economic environment. However, the number of FTE (Full-Time Equivalent) researchers, of research supporting and administrative personnel is not sufficient. The own resources are not well balanced between UHA and URCA sites. The unit general objectives are very vaguely defined as developing an overall picture from vine to wine. If the objectives of the group working in Colmar on plant pathology are quite clearly defined in relation to the grapevine trunk diseases, the objectives of the group working in Reims on oenology are much less clearly defined. Even less clearly defined is how the objectives of the two groups can be put together to form a coherent set of clearly defined objectives for a single research team. The management strategies utilised are not illustrated and it is not clear to what extent interaction between the two physically separated groups are existing and/or encouraged. An insufficient scientific animation activity is apparent both from the self-evaluation report as well as from the discussions with the unit members. Scientific interactions with other groups working on the grapevine in Colmar appear to be sporadic and those with other groups in France or abroad working on grapevine trunk diseases appear to be extremely limited.

The LVBE unit has a good scientific attractiveness at the national level, whereas at international level it is limited to border countries of the upper Rhine region: Germany in particular and Switzerland to a lesser extent. The unit is therefore mostly attractive for regional and national funds, although it has been involved in a European INTERREG project. Its staff hosting policy is unclear, and its PhD supervising activity is low, in particular for the URCA site. The UHA site is actively promoting the emergence of a technological platform but very little details are provided about the exact nature of the platform and the benefits it will provide in terms of attracting resources and personnel. It is not clear what the exact objectives and end users of the technological platform are, whether it is aimed at fulfilling the needs of the unit itself or of other academic units or of the professionals.

The scientific production of the unit is assessed as good from the qualitative point of view and from fair to good from the quantitative one. There is a lack of high-profile publications), and a low number of publications on a per year per scientist basis (40 peer reviewed publications in 6 years with a total of 16.5 permanent FTEs that makes an average of 0.4 publications per year per FTE). All of this despite the fact that the topics the unit works on offer opportunities for high-profile publications in consideration of the fact that relatively little is known about grapevine trunk diseases and that there are not too many groups competing on this topic at the international level. No publication is present that results from a joint effort of the scientists working in the two different physical sites of the unit and a very limited number of collaborative publications is present that involves teams working on grapevine trunk diseases in other French sites or abroad.

The inclusion of the unit's research in society is very good for the team from UHA. They have developed strong ties with the wine profession through their participation in different structures at regional and interregional levels. Through different outreach activities, they aim to transfer the results of their research to the potential users. These good contacts, however, did not yet generate concrete transfer in terms of products or processes.

## DETAILED EVALUATION OF THE UNIT

### A - CONSIDERATION OF THE RECOMMENDATIONS IN THE PREVIOUS REPORT

As requested by the previous Hcéres committee, the laboratory has initially focused its research on the "grapevine decline" theme and gathered all the members of the laboratory in one team on the subject "Diseases of grapevine woods." Later on, the laboratory has fused with the team "Oenology and applied chemistry" of URCA. Regarding the securing of EU funding, the LVBE has been a partner of the INTERREG Vitifutur project. The number of PhD theses is still under the average.

### B - EVALUATION AREAS

#### EVALUATION AREA 1: PROFILE, RESOURCES AND ORGANISATION OF THE UNIT

##### Assessment on the unit's resources

The LVBE unit has a good activity profile, in line with the policy of UHA and URCA and in particular with the socio-economic environment. However, the number of research engineers, technicians and administrative personnel is not considered by the staff as sufficient. The PhD supervising activity is not sufficient, in particular at the URCA site. Although there is a considerable annual amount of own resources, it is not well balanced between UHA and URCA sites. Its ability to find the required funds through mostly local grants and initiatives was assessed as very good.

##### Assessment on the scientific objectives of the unit

The overall assessment on this criterion is fair for the team of URCA and good for the team of UHA. Overall, the unit's objectives are in line with the objectives of the two supervising bodies of the unit that are University of Haute-Alsace and the University of Reims Champagne-Ardenne. They aim at contributing to the agroecological transition and at reducing pesticides use in agriculture. However, the unit general objectives are very vaguely defined as developing an overall picture from vine to wine. If the objectives of the group working in Colmar on plant pathology are quite clearly defined in relation to the grapevine trunk diseases and specifically to the Esca Disease, the objectives of the group working in Reims on oenology are much less clearly defined. Even less clearly defined is how the objectives of the two groups can be put together to form a coherent set of clearly defined objectives for a single research team. The fact that the unit is claiming to be focused on two major issues that the winegrowers are facing, vine diseases and wine quality in face of climate change, is not itself sufficient to put these two research areas together in a single team.

##### Assessment on the functioning of the unit

The overall assessment of this criterion is good. The general atmosphere in the unit is very good. LVBE is complying with the rules and strategy set up by its two governing bodies UHA and URCA; it is particularly attentive to the well-being of its members, it encourages them to progress in their professional career. Health and safety rules are correctly implemented but the unit needs to recruit a referent person to deal with that for the long term. Internal scientific animation is not sufficient. There is no seminar, no regular lab meeting, no invitation of external speakers.

*1/ The unit has resources that are suited to its activity profile and research environment.*

Strengths and possibilities linked to the context

With 3 professors, 18 lecturers and 6 research supporting personnel, representing 16.5 (10.5 + 6) annual Full-Time Equivalents (FTE) dedicated to one major axis, being applied research oriented to agri-environmental engineering of vines, the LVBE unit has a good activity profile, in line with the policy of UHA and URCA, and in particular within the "Chemistry, Functional Materials & Environment" field of UHA.

This activity profile is further very well suited to the socio-economic environment of UHA and URCA, which are in renowned vineyard regions.

The FTE distribution (permanent) between the two sites is unbalanced, with 6 lecturers and 2 research supporting personnel dedicated to the enology area at URCA, whereas 3 professors, 11 lecturers and 4 research supporting personnel are dedicated to 2 areas of research at UHA.

The unit has a considerable annual amount of own resources of 516 k€, which represents a ratio of  $516/23.9 = 21.6$  k€/staff. (23.9 staff = 16.5 permanent + 3.8 PhD + 3.6 postdocs). This is considered as very good to excellent. The unit has a satisfactory record in annual resources from competitive international funding, representing 14.5% of the total annual resources (not including the wage bill), whereas 85.5% are from regional or national competitive funding excluding PIA.

The UHA policy of pooling resources among laboratories has promoted the sharing of one research supporting personnel (0.5 FTE) with another unit, thus giving access to analytical facilities.

Weaknesses and risks linked to the context

Without any researcher, the researcher/lecturer ratio is not sufficient.

The PhD supervising activity of the unit is not sufficiently developed (3.8 FTE per year over the six years), with only three theses achieved, three theses started in 2018 or 2019, and two recently started (end of 2021).

There is no PhD supervising activity at URCA site.

There are no postdocs at URCA site.

There are no FTE administrative permanents at URCA site, and only two at UHA site.

Own resources from the URCA site are unsatisfactory, with only 185 k€ over the period of reference.

The 48 k€ of recurring funds per year are low for the whole unit.

The policy to integrate the URCA team in the LVBE has not been described in any detail both in the report as well as during the interview.

*2/ The unit has set itself scientific objectives, including the forward-looking aspect of its policy.*

Strengths and possibilities linked to the context

The unit missions are related to the general objective of providing solutions to the major challenges faced by winegrowers. As such they are definitely relevant for the winegrowing profession. The objective of understanding the aetiology of vine dieback and more specifically of grapevine trunk diseases such as Esca Disease is also scientifically very relevant because relatively little is known about this class of diseases and not too many groups are working on this topic. The unit's scientific objectives are in line with those defined by its supervising bodies, the University of Haute-Alsace and the University of Reims Champagne-Ardenne.

The unit has developed collaborations with the winegrowing profession in Alsace and with some international phytopharmaceutical companies.

Weaknesses and risks linked to the context

The unit objectives are not coherent among the two physically separated groups. The objectives for the group working on oenology are extremely vaguely defined and generic. The forward-looking aspect of its research policy is not apparent from the information provided in the self-evaluation document. There appears to be a major risk that what is organized as a single-team functions as two completely independent teams with different objectives that are not coordinated as required.



### *3/ The functioning of the unit complies with the regulations on human resources management, safety, the environment and the protection of scientific assets.*

#### Strengths and possibilities linked to the context

The lab is complying with the rules set up by its two governing bodies; it is attentive to the health and well-being of its members and encourages all staff to progress in their careers (through CRCT for example). The gender ratio of the unit is in favor of women (2/3-1/3).

#### Weaknesses and risks linked to the context

The document does not provide information on preservation of environment, energy and resource savings, reduction of carbon footprint, waste processing and biodiversity preservation.

We also lack information on measures to prevent risks to scientific assets or information systems.

The unit is presented as a "single team" which is surprising knowing that it is split in two different sites with two very different topics and skills. It is difficult in these conditions to have a real team strategy on organization and management.

## EVALUATION AREA 2: ATTRACTIVENESS

### Assessment on the attractiveness of the unit

The LVBE unit has a good scientific attractiveness at the national level, whereas at the international level the attractiveness is limited to border countries of the upper Rhine region: Germany in particular and Switzerland to a lesser extent. The unit is therefore mostly attractive for regional and national funds, although it has been involved in a European INTERREG project. Its staff hosting policy is unclear, and its PhD supervising activity is low, in particular for the URCA site. The UHA site is actively promoting the emergence of a technological platform. The specificity on the main research topic about trunk disease contributes to the attractiveness of the unit for scientists as well as students.

### *1/ The unit has an attractive scientific reputation and contributes to the construction of the European research area.*

#### Strengths and possibilities linked to the context

The unit has a good to very good scientific reputation at national level (9 oral communication among the 30 at the "Congrès National des maladies du bois", Reims, Nov. 2021, Guy Ourisson Award, "Chevalier du mérite agricole", V.I.P. in vine World (journal *Vitisphere*). This specificity on the main research topic about trunk disease contributes to the attractiveness of the unit for scientists as well as students.

They developed contracts with national and international companies (BELCHIM, BASF, VA (Vins d'Alsace), Comité Champagne).

#### Weaknesses and risks linked to the context

The research unit did not yet participate in H2020, ITN or ERC European projects. International cooperation seems limited to some specific collaborations (University of Florence, University of Massachusetts, University of Louvain). Most of the national and international recognitions are related to work performed by the UHA team.

### *2/ The unit is attractive for the quality of its staff hosting policy.*

#### Strengths and possibilities linked to the context

LVBE claims regular contacts to set up collaborations with universities and private companies (University of Florence, University of Lorraine). PhD students and postdocs reported very good working conditions in the unit. The self-evaluation document does not contain much information on the staff hosting policy.

## Weaknesses and risks linked to the context

LVBE acknowledges the lack of funding to welcome more PhD students. This is in the same line as the next point (contracts): the unit is not sufficiently involved in national and European consortia. More collaboration would mean more projects, more budget, more PhD and postdocs. Although UHA and URCA provide incentives to invite guest researchers, only one has been welcomed during the period.

All the examples provided are related to the activity of the UHA group, and the corresponding information for the oenology group (URCA) is missing.

*3/ The unit is attractive because of the recognition gained through its success in competitive calls for projects.*

## Strengths and possibilities linked to the context

The unit is a partner of an outstanding European INTERREG project VITIFUTUR, for a budget of 452 K€, which represents 14.5% of the total annual resources (excluding recurrent funding).

The unit claims excellence with the partnering to the National ANR project GTD Free, for a budget of 65 k€.

The unit claims excellence with the coordination of the Ministère de l'agriculture - France Agrimer - CNIV – PNDV national program, with a total budget of 560 k€.

The unit is good in getting regional funds, with the partnership of the VITEST regional program, with a budget of 541 k€; the coordination of a Region Grand Est- Feader - Fonds National d'aménagement et de développement du territoire, with a total budget of 735 k€ for the creation of a technological platform.

The unit coordinates 3 SATT projects for a total budget of 473 k€.

The unit coordinates 3, and is a partner of 1 program funded by 2 charities (Foundation Nestlé, Fondation Écologie Avenir) for a total budget of 126 k€.

## Weaknesses and risks linked to the context

The unit did not succeed in the most competitive national and international funding programmes such as ANR and H2020 and Horizon Europe.

Without any coordination of national or international projects, the unit's leadership is not sufficiently developed. With only one SATT contract (coordinator), the success in getting funds from local and regional bodies is not sufficiently developed for URCA site.

The number of PhD students over the 6-year period is low, with only 6 PhD students contributing 3.8 FTE per year.

*4/ The unit is attractive for the quality of its major equipment and technological skills.*

## Strengths and possibilities linked to the context

The unit claims access to analytical facilities comprising cutting-edge equipment in the field of analytical biochemistry thanks to the sharing of 1 permanent staff (0.5 FTE) with another UHA unit (LIMA team).

The unit has gained success in local and regional calls (UHA, CIVA, FEADER, FNADT & Grand Est Region), with a budget of 735 k€ for investing into the building-up of a platform that started in 2021. The platform includes facilities for plant growth in controlled conditions and for metabolite analysis with UPLC-MS.

## Weaknesses and risks linked to the context

The project of plant innovation platform is not sufficiently clear in terms of providing estimates of how much the platform is going to be used internally vs. to be used to provide external services. There is a risk that the unit is developing a technological platform only oriented towards LVBE research needs and not towards the needs of trade professionals or other academic institutions outside LVBE.

There is a risk that the unit will get short in permanent FTEs (PAR) dedicated to the platform.

The contracts of the two temporary engineers in charge of the platform will end at the end of 2023. No information is provided on how the platform will be managed after 2023.

The URCA site is lacking any platform.

## EVALUATION AREA 3: SCIENTIFIC PRODUCTION

### Assessment on the scientific production of the unit

The scientific production of the unit is assessed as good qualitatively and from fair to good quantitatively. There is a lack of high-profile publications, a high proportion of publications especially in the most recent years that have been published in journals with low stringency editing/reviewing policies, and a low number of publications on a per year per scientist basis. All of this despite the fact that the topics the unit works on offer opportunities for high-profile publications in consideration of the fact that relatively little is known about grapevine trunk diseases and that there are not too many groups competing on this topic at the international level. No publication is present that results from a joint effort of the scientists working in the two different physical sites of the unit.

#### *1/ The scientific production of the unit meets quality criteria.*

##### Strengths and possibilities linked to the context

The unit has published some papers on interesting and original topics (in journals such as *Phytochemistry*, *Plant Pathology*, *Food Chemistry*, *PloS One*), especially in relation to grapevine trunk diseases and specifically Esca disease and the relation with the plant microbiota. The opportunities for high-profile publications to exist in consideration of the fact that relatively little is known about grapevine trunk diseases and that there are not too many groups competing on this topic at the international level.

##### Weaknesses and risks linked to the context

The average quality of the publications is not very high. Some of the few publications on the most prestigious journals do not see the unit members as leading authors (*Genome announcements*, *Renewable energy*). In the most recent years, it is very evident that the unit members have started to publish more and more frequently in MDPI journals (e.g. *Molecules*, *Foods*, *Metabolites*, *Clean Technologies*, *Water*). Between 2020 and 2021 out of the 14 original articles published in international journals, 7 were published in MDPI journals. While it is definitely important to publish in open access journals, it is not clear if there is a policy in terms of choice of journals where to publish, in consideration of the current situation of multiple predatory or semi-predatory journals (e.g. MDPI) and the recent scandal involving *PloS One*. The four publications presented in the portfolio, that should represent the most interesting pieces of the scientific production, do not fit the definition of high-profile publications. The presentations at congresses were in total 13 over the 6-year period. Even when we take into account the effects of the Covid pandemic on congress activities this appears to be a limited number, especially when one considers that they were all concentrated in only 3 congresses (2 international, one national).

#### *2/ Scientific production is proportionate to the research potential of the unit and shared out between its personnel.*

##### Strengths and possibilities linked to the context

The unit endeavors to publish, as co-authors, original results from collaboration with other local or national units, involving chemistry or physics, with 18 research articles and 1 review.

The unit endeavors to publish original results, as co-authors, from innovative transdisciplinary participatory-action-research, with an article in a transdisciplinary journal from Nature group (Humanities & Social Sciences Communication).

The unit endeavors to publish in leading and visible journals of its disciplines, with 13 articles of that kind, which contributes 1/3 of the published articles.

The unit is visible through the publication as co-author, of 3 articles in high-profile journals (*Genome announcements*; *Science of the Total environment* and *Renewable energy*).

The unit is visible through the PDC (premier, dernier, corresponding) authorship of 1 review in *Food Science and Nutrition*.

The unit has deposited 2 patents, with international extension.

## Weaknesses and risks linked to the context

Although the unit endeavors to integrate FTE teacher-researchers and PAR, with only 3 teacher-researchers and 1 PAR without any publications, the overall production of the unit is unsatisfactory with 36 original articles (JCR), 4 review articles (JCR), and 6 conference proceedings, over 6 years, contributing to a number of articles (JCR) per year and per FTE (total) of 0.3.

The leadership in publications is unsatisfactory with 20 articles in the position of PDC over 6 years, contributing to a number of PDC publications (JCR) per year and per FTE (permanent) of 0.2.

The production of 6 PhDs contributing 3.8 FTE per year is unsatisfactory with 9 articles (5 as the first author), 3 proceedings (2 as the first author), making up a number of articles per year per FTE of 0.39.

The production of 7 postdocs contributing 3.6 FTE per year is unsatisfactory with 4 articles (none as PDC) and 1 proceeding (first author), making up a number of articles per year per FTE of 0.18.

The overall production of the unit (publications) does not reflect the FTE distribution between the two sites, with the URCA site (5 FTE permanent) contributing 14 publications (JCR) and the UHA site (11.5 FTE permanent +3.8 PhD students + 3.6 postdocs) contributing to 26 publications (JCR).

The presentations at congresses were limited to just 3 congresses (2 international, one national).

The scientific potential of the unit is not fully exploited partly as a consequence of very heavy teaching commitments for some of the lecturers.

The scientific production that could result from the collaboration between the two sites is inexistent.

### *3/ The scientific production of the unit complies with the principles of research integrity, ethics and open science.*

## Strengths and possibilities linked to the context

Most of the scientific papers have been published in open access journals.

## Weaknesses and risks linked to the context

No information is provided about data sharing policies. We miss information to confirm that the lab complies with the principles of research integrity and ethics.

## EVALUATION AREA 4: CONTRIBUTION OF RESEARCH ACTIVITIES TO SOCIETY

### *Assessment on the inclusion of the unit's research in society*

The inclusion of the unit's research in society is very good for the team from UHA. They have developed strong contact with the wine profession through their participation in different structures at regional and interregional levels. Through different outreach activities, they frequently communicate the result of their research to the wine growers (8 conferences). The unit leadership has clearly worked hard to develop fruitful interactions with the wine sector and industry. On the other hand, these good contacts did not yet generate concrete transfer in terms of products or processes.

### *1/ The unit stands out by the quality of its non-academic interactions.*

## Strengths and possibilities linked to the context

The LBVE has developed a strong collaboration with the wine profession. It got several grants from the Conseil National interprofessionnel viticole/France Agrimer (178.56 kEuros) and Belchim (35 kEuros). The researchers are also active in outreach activities. They publish in journals such as Réussir Vigne, Est Agricole or Phytoma. They participate in TV or radio reportages. They did 8 conferences in meetings organized by the profession.

## Weaknesses and risks linked to the context

For the moment, there is no impact of these strong interactions on the set-up of new standards, procedures or recommendations.

## *2/ The unit develops products for the socio-economic world.*

### Strengths and possibilities linked to the context

The unit has deposited two patents.

The researchers developed two practical and innovative approaches of surgery to curate trunk diseases (Pacetty et al. 2021) and vertical endotherapy.

### Weaknesses and risks linked to the context

A first patent related to the use of bismuth subsalicylate as phytosanitary product was deposited in 2015 but no license was yet delivered and experiments are still ongoing to determine the interest of this patent.

## *3/ The unit shares its knowledge with the general public and takes part in debates in society.*

### Strengths and possibilities linked to the context

The committee did not get too much information about this aspect. There was only one sentence in the self-evaluation document that reports regular participations at different general public events ("Fête de la Science", "science cafés", "La Nef des Sciences").

### Weaknesses and risks linked to the context

No weaknesses and no risks could be identified.

## C - RECOMMENDATIONS TO THE UNIT

### *Recommendations regarding the Evaluation Area 1: Profile, resources and organisation of the unit*

The committee recommends that the unit defines a coherent and coordinated set of objectives that could finally make what right now appears as two completely independent research groups appear a coherent research unit with shared goals if not methodologies. It is particularly important to define clearly the objectives for the group working on oenology that are at the present moment extremely vaguely defined and generic.

The committee recommends a greater attention at the scientific animation activities within the unit: laboratory meetings, internal seminar series, external seminar series, should be regularly organised in order to foster exchange of ideas, new collaborations, get everybody in the unit equally involved in the scientific life of the unit. Finally, the committee strongly encourages LVBE to seek a formal collaboration agreement with their neighbour INRAE (namely the SVQV unit. A closer collaboration with SVQV could also contribute to improving scientific animation activities in the unit through the organisation of joint seminar series.

### *Recommendations regarding the Evaluation Area 2: Attractiveness*

The committee recommends that the LVBE unit defines a clear and consistent set of joint activities and projects between its two sites and identifies its specific strengths compared to other national and international units working in the fields of grapevine trunk disease and enology. It also recommends that the LVBE unit builds international collaborations, and applies for PIA and European fundings, in order to gain international recognition, and to secure alternative funds for PhD recruitment. It further recommends putting efforts in PhD supervision, with particular attention to the URCA site, and to valorize the scientific production of PhDs and postdocs. The committee acknowledges the effort of LVBE to equip itself with a technological platform, and recommends defining its objectives precisely with balance between teaching, excellence in research and extension towards professionals, and to secure funds for a dedicated staff.

### *Recommendations regarding Evaluation Area 3: Scientific Production*

The committee recommends that the unit increases the scientific production both from the qualitative point of view as well as from the quantitative one. An attempt should be made at publishing original research on innovative aspects such as fungal biology involved in GTD in high-profile journals that could give visibility to the

unit and increase its attractiveness. The committee strongly encourages the unit to improve scientific production also by trying to decrease the teaching load of individual researchers when this load appears to be in excess of the required teaching commitments, even if it could lead to tough decisions in terms of course offerings. The committee also recommends that the unit decreases the proportion of papers that are published in open access journals with limited reviewing requirements. Publications that attest the existence of a real scientific collaboration among the groups in the two physical sites should be encouraged. The production of publications in collaboration with other groups working on similar subjects in France and abroad is also recommended as a mean to attract skills and competences that are currently missing in the unit. The committee recommends that additional skills and competences are developed in the unit that could complement the existing ones and help to produce higher-profile publications and to get a better mechanistic explanation of the pathosystems being investigated. Such new methodologies to be introduced into plant pathology research are transcriptomics, bioinformatics, single-cell and spatial transcriptomic analyses. The unit management should encourage a greater participation to a more diverse set of international congresses with the presentation of oral contributions both to get exposed to different approaches and methodologies as well as to give greater visibility to the unit scientific results.

### *Recommendations regarding Evaluation Area 4: Contribution of Research Activities to Society*

The committee recommends that the LVBE unit pursues their strong interactions with the professional sector. It should be interesting to include the team of URCA in this perspective. This interaction should lead to concrete results such as licenses related to the two patents or novel protocols or recommendations for example in relation to the work on trunk surgery and on vertical endotherapy. The committee recommends that the process of technology transfer used by the unit includes benchmarking studies to assess for the feasibility, applicability and transfer potential of the specific innovation.

## CONDUCT OF THE INTERVIEWS

### Date

**Start:** 27 octobre 2022 à 08h30  
**End:** 27 octobre 2022 à 18h45

**Interview conducted: on-site**

### INTERVIEW SCHEDULE

| Start  | Duration | End  | Status |
|--|----------|--|--------|
| <b><u>Part 1: Scientific presentations</u></b>                               |          |  |        |
| 08h30  | 00:15    | 08h45 Introduction (Hcéres Scientific Advisor)   | Open   |
| 08h45  | 00:15    | 09h00 General presentation of the Research Unit: organization and scientific policy (Christophe Bertsch)                         | Open   |
| 09h00  | 00:10    | 09h10 Discussion with the <b>committee</b>   | Open   |
| 09h10  | 00:20    | 09h30 <i>Fomitiporia mediterranea</i> : an underestimated pathogen in Esca-complex of diseases (Samuele Moretti)                 | Open   |
| 09h30  | 00:10    | 09h40 Discussion with the <b>committee</b>   | Open   |
| 09h40  | 00:20    | 10h00 Mining genetic sources for grapevine resistance to <i>Botryosphaeriaceae</i> (Julie Chong)                                 | Open   |
| 10h00  | 00:10    | 10h10 Discussion with the <b>committee</b>   | Open   |
| 10h10  | 00:20    | 10h30 BREAK  |        |
| 10h30  | 00:20    | 10h50 Innovative therapies and upright endotherapy techniques - Development on new efficient technologies (Mélanie Gellon)       | Open   |
| 10h50  | 00:10    | 11h00 Discussion with the <b>committee</b>   | Open   |
| 11h00  | 00:20    | 11h20 Mycorrhiza: a lever to improve grapevine health (Julie Chong)  | Open   |
| 11h20  | 00:10    | 11h30 Discussion with the <b>committee</b>   | Open   |
| 11h30  | 01:00    | 12h30 First closed Hcéres panel meeting  | Closed |
| 12h30  | 01:00    | 13h30 LUNCH BREAK  |        |
| <b><u>Part 2: Meetings with lab members</u></b>                              |          |  |        |
| 13h30  | 00:30    | 14h00 Meeting of the <b>committee</b> with (Associate) Professors (except direction)   | Closed |
| 14h00  | 00:30    | 14h30 Meeting of the <b>committee</b> with the technical & administrative staff (in French)                                      | Closed |
| 14h30  | 00:30    | 15h00 Meeting of the <b>committee</b> with PhD students & Post-docs  | Closed |
| 15h00  | 00:30    | 15h30 Second closed Hcéres panel meeting   | Closed |
| 15h30  | 00:15    | 15h45 BREAK  |        |
| <b><u>Part 3: Meetings with University representatives and Unit Head</u></b> |          |  |        |
| 15h45  | 00:25    | 16h10 Meeting of the <b>committee</b> with the UHA + URCA representatives (Sylvie Rivot VP-R UHA + Christophe Clément VP-R URCA) | Closed |
| 16h10  | 00:25    | 16h35 Meeting of the <b>committee</b> with the Research Unit Director (Christophe BERTSCH + future director Julie CHONG)         | Closed |
| <b><u>Part 4: Committee final debriefing</u></b>                             |          |  |        |
| 16h45  | 02:00    | 18h45 Final Hcéres panel meeting   | Closed |

## GENERAL OBSERVATIONS OF THE SUPERVISORS



Mulhouse, le 20 mars 2023

**Pr Sylvie RIVOT**

Vice-Présidente Recherche  
et Formation Doctorale  
[vp-recherche@uha.fr](mailto:vp-recherche@uha.fr)

Réf : DER-PUR230023296  
Rapport : C2023-EV-  
0681166Y-DER-  
PUR230023296-RT

HCERES  
Monsieur Eric SAINT-AMAND  
Directeur du Département d'évaluation de la  
Recherche

Objet : Response to the evaluation report of LVBE, UR 3991

Dear Director,

I would like to thank you for the evaluation of the research unit  
"Laboratoire Vigne Biotechnologie Et Environnement" (LVBE, UR UHA 3991)  
directed by Mrs Julie CHONG.

The director of the research unit and myself would like to thank the  
members of the evaluation committee and the HCERES managers for the  
quality of the report. We agree with most of the opinions and remarks  
formulated, which constitute an undeniable help for the management of  
the research unit.

The University of Haute-Alsace does not wish to make any general  
comments.

You will find enclosed the responses of the unit director concerning, on the  
one hand, the factual errors and, on the other hand, the general  
observations on the evaluation report.

Yours sincerely

La Vice-Présidente de la  
Recherche, de la Valorisation  
et de la Formation Doctorale



Pr Sylvie RIVOT

Colmar, le 16/03/2023

**Réf : DER-PUR230023296**

**Rapport : C2023-EV-  
0681166Y**

HCERES  
Monsieur Eric SAINT-AMAND  
Directeur du Département d'évaluation de la  
Recherche

Colmar, the 16/03/2023

Subject: Responses to the HCERES evaluation report

Mr. Director,

We thank you and the HCERES committee for the evaluation report on the Laboratoire Vigne, Biotechnologie et Environnement Unit and for the constructive recommendations. We overall agree with the assessments and we will take into account the committee recommendations for the construction of the Unit future project. We would nevertheless like to add comments to some points:

- The committees states that "The reasons that led to the addition of the oenology group from URCA are not provided and very little evidence of scientific interaction between the two sites is provided." Though we overall agree with this conclusion we would nevertheless precize that LVBE and LOCA applied together to the ANR CPA "Cultiver et Protéger Autrement" in 2019, but unfortunately this project did not succeed.
- The committee states that "Scientific interactions with other groups working on the grapevine in Colmar appear to be sporadic and those with other groups in France or abroad working on grapevine trunk diseases appear to be extremely limited". We would like to emphasize that regarding collaborations with INRAE-UMR SVQV Colmar, one PhD has been co-supervised by UHA and INRAE during the 2015-2019 period and that in addition LVBE-UHA and INRAE-SVQV are both involved in the Vitest project, a research program for vine health financed by the Grand-Est Region (2019-2023). Collaborations between UHA and INRAE-SVQV Colmar have resulted in 4 joined-publications for the 2016-2021 period. In addition, concerning national and international collaborations with other groups working on GTD, the unit has produced for the 2016-2022 period, 11 publications resulting from these collaborations (with INRAE Colmar, RIBP URCA, INRAE Bordeaux, INRAE Montpellier, Lorraine University, IFV, KIT Karlsruhe, University of Firenze, Austrian Institute of Technology, Weinbauinstitut

Freiburg, University of Massachussetts). We think that this scientific production demonstrates that national and international collaborations of the unit are not sporadic and extremely limited.

- The committee states that “the unit did not succeed in the most competitive national and international funding programmes such as ANR and H2020 and Horizon Europe”. On the evaluated period, the unit had a considerable amount of own resources, as acknowledged by the committee, resulting from success to responses to several national and international calls (Interreg, PNDV, Grand Est Region). It is very difficult or even unrealistic for our team, which is a relatively small university unit only composed of teachers-researchers, with extensive pedagogic and administrative tasks, to assume and succeed in the coordination of these very competitive and time consuming research programmes.
- The committee states that “The project of plant innovation platform is not sufficiently clear in terms of providing estimates of how much the platform is going to be used internally vs. to be used to provide external services”. During the evaluation we have explained that this platform is quite recent and has developed and mastered several advanced tools in 2021-2022. It is planned to be open to external users in 2023-2024, but its future will also depends on further support by our University through the funding of our 2 Engineers positions at least for one additional year.



Le/La Directrice du Laboratoire Vigne, Biotechnologies et Environnement  
Julie CHONG

The Hcéres' evaluation reports are available online:  
[www.hceres.fr](http://www.hceres.fr)

**Evaluation of Universities and Schools**

**Evaluation of research units**

**Evaluation of the academic formations**

**Evaluation of the national research organisms**

**Evaluation and International accreditation**



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