



Institut fir Biologesch Landwirtschaft  
an Agrarkultur Luxembourg a.s.b.l.

# IBLA ANNUAL REPORT 2018

› **ADDRESS /**

13, rue Gabriel Lippmann | L-5365 Munsbach

› **PHONE /** +352 26 15 13 - 88

› **EMAIL /** [info@ibla.lu](mailto:info@ibla.lu)

› **WEB /** [www.ibla.lu](http://www.ibla.lu)

## INDEX

|                                  |    |
|----------------------------------|----|
| › IBLA LUXEMBURG A.S.B.L. ....   | 03 |
| › TEAM .....                     | 05 |
| › FUNDRAISING 2018 .....         | 08 |
| › EVENTS 2018 .....              | 09 |
| › FIELD INSPECTION LEGUTEC.....  | 12 |
| › RESEARCH AND DEVELOPMENT ..... | 13 |
| › EXTENSION SERVICES .....       | 34 |



### IBLA

**Institut fir biologesch  
Landwirtschaft an Agrarkultur  
Luxemburg a.s.b.l.**

The "Institut fir biologesch Landwirtschaft an Agrarkultur Luxemburg a.s.b.l." (IBLA) was established in 2007 by the two associations for organic agriculture - bio-LABEL Lëtzebuerg and Demeter Lëtzebuerg (known as "Bio-Lëtzebuerg - Vereenegung fir Bio-Landwirtschaft Lëtzebuerg a.s.b.l." since their merger in 2012), the Research Institute of Organic Agriculture (FiBL)/Switzerland, organic farmers and processors as well as private persons.

The "Bio-Berodung" agricultural extension service for organic farmers, which was established in 1999 by Demeter Lëtzebuerg and Bio-LABEL, was integrated into IBLA at that moment.

IBLA is the competence centre for research and consulting in the field of organic agriculture in Luxembourg. Its main focus lies not only on applied research, but also on the fast implementation of results and insights in practice through our agricultural extension services, seminars, on-site trial inspections, visits to demonstration farms and various up-to-date informational brochures.

Since 2015, IBLA is a registered non-profit association as well as an acknowledged research institute in Luxembourg.





## **VISION & MISSION**

### **Vision**

We envision a world where we can produce high quality food while protecting the natural environment through farming in respect with nature.

We believe that we can achieve such a sustainable farming system through organic agriculture.

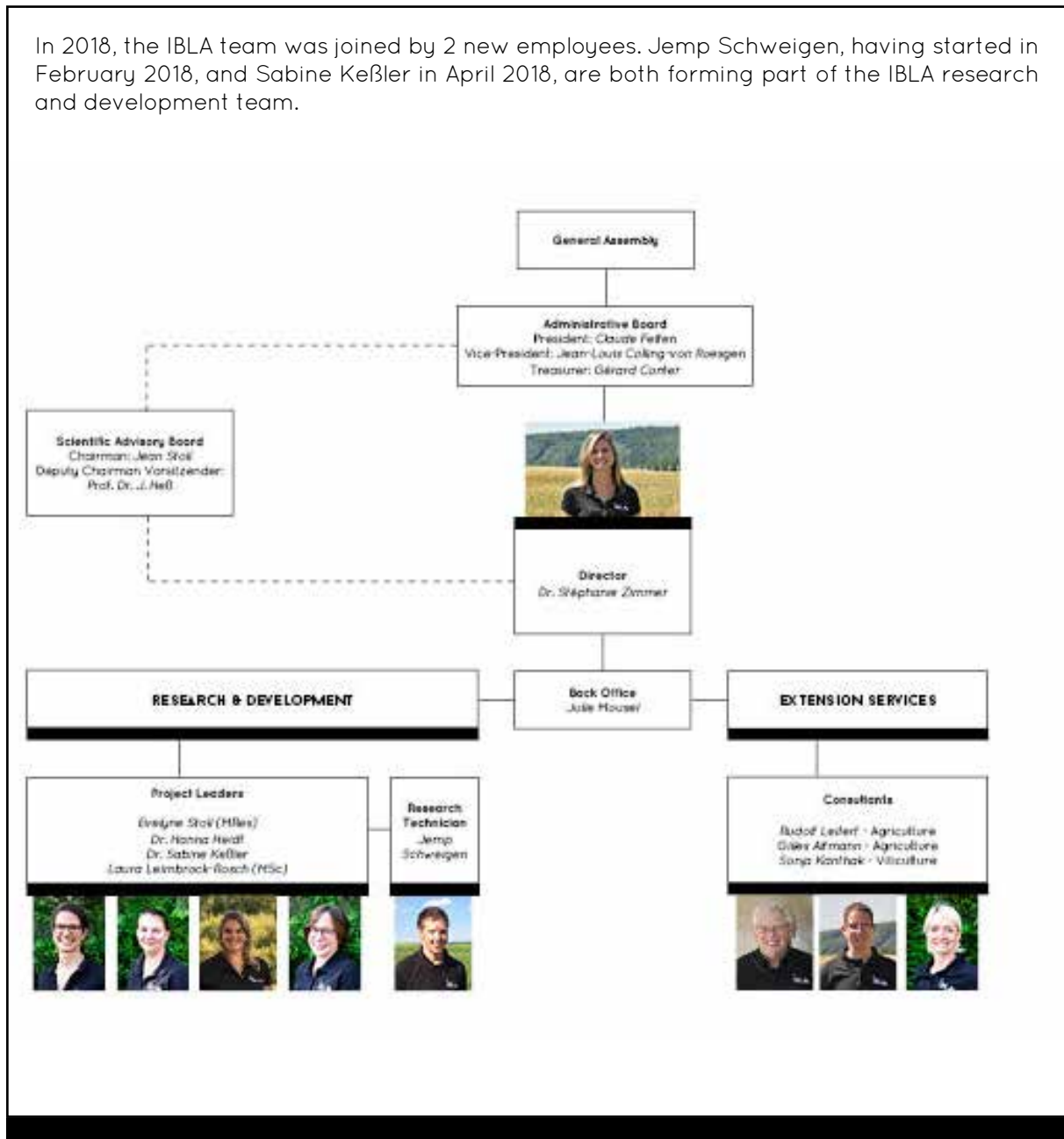
### **Mission**

Improving organic agriculture with research, advisory, dissemination and support activities, thus making agriculture more performant and resilient.

This will empower farmers to implement sustainable farming practices in Luxembourg.

# ORGANIZATION CHART 2018

In 2018, the IBLA team was joined by 2 new employees. Jemp Schweigen, having started in February 2018, and Sabine Keßler in April 2018, are both forming part of the IBLA research and development team.



## TEAM



### STÉPHANIE ZIMMER

Dr. Agr. | Director IBLA

+352 621 30 25 23  
zimmer@ibla.lu



### HANNA HEIDT

Dr. Agr. | Research & Development

+352 26 15 13-82  
heidt@ibla.lu



### EVELYNE STOLL

MRes. Env. Analysis and Assessment | Research & Development

+352 26 15 13-87  
stoll@ibla.lu



### SABINE KEBLER

Dr. rer. nat. | Research & Development

+352 26 15 13-90  
kessler@ibla.lu



### LAURA LEIMBROCK

MSc. Env. Sciences | Research & Development

+352 26 15 13-77  
leimbrock@ibla.lu



### JEMP SCHWEIGEN

Research Technician | Research & Development

+352 691 204 511  
schweigen@ibla.lu



### RUDOLF LEIFERT

State certified farmer | Extension Service Agriculture

+352 621 302 522  
leifert@ibla.lu



### GILLES ALTMANN

MSc. Agricultural Crop Sciences | Extension Service Agriculture

+352 621 494 485  
altmann@ibla.lu



### SONJA KANTHAK

Vintner | BSc. org. agri. | Extension Service Viticulture

+352 621 677 351  
kanthak@ibla.lu



## **ADMINISTRATIVE BOARD**

**Claude Felten**

President

**Jean-Louis Colling-von Roesgen**

Vice-President

**G rard Conter**

Treasurer

**Francis Jacobs, Marco Koeune, Jean-Paul Krier-Bisenius, Roland Majerus, Aender Schanck, Jos Schanck**

Board Members

## **SCIENTIFIC ADVISORY BOARD**

To guarantee the scientific quality of the Research and Development (R&D) Department, a scientific advisory board was founded in 2015.

Besides providing advice to management, the SAB serves the function of assisting the R&D Department with any research-related questions they might have in order to guarantee the scientific quality of their work.

- Certified agricultural engineer Jean Stoll, independent consultant – chairman
- Professor Dr J rgen He , area of expertise: organic agriculture and crop farming, University of Kassel – vice chairman
- Professor Dr Christophe Emmerling, subject: agronomy, University of Trier
- Dr Thorsten Haase, organic farming consulting service, State Office (*Landesbetrieb*) for Agriculture Hessen
- Professor Dr Ulf Liebe, Institute of Sociology, University of Warwick
- Professor Dr Urs Niggli, Director of the Research Institute of Organic Agriculture (*Forschungsinstitut f r biologischen Landbau - FiBL*) in Switzerland
- Professor Dr Hans-Peter Piepho, area of expertise: biostatistics, University of Hohenheim
- Dr Christian Schader, head of sustainability analysis at FiBL Switzerland
- Professor Dr Werner Zollitsch, head of the Division of Livestock Sciences, University of Natural Resources and Life Sciences, Vienna

# FUNDRAISING

## „DON EN CONFIANCE“ MEMBERSHIP

On 12<sup>th</sup> December 2017, IBLA was solemnly accepted as a member of „Don en Confiance“. The non-profit organisation „Don en Confiance Luxembourg“ was founded with the objective of safeguarding the rights of donors, namely to know how their donation will be applied and whether or not they will be managed appropriately. IBLA too has pledged to uphold the six principles of the “Code of Good Behaviour” („Code de bonne conduite“, [www.donenconfiance.lu](http://www.donenconfiance.lu)).

IBLA has furthermore been recognised as a non-profit association since 2016. Donations to IBLA can therefore be fiscally deducted. In 2018, IBLA received numerous donations from both businesses and private individuals.



## SPONSORSHIPS

The following fund-raising campaigns were launched in 2018:

### GÉFF PÄTTER / GIEDEL BEIM IBLA

Erlief den IBLA-Reewiermchen an Aktioun op eisen Versuchsfelder  
oder

Looss deng Liiblingsgromper an eise Sortenversuch testen

#### Reewiermchen-Patenschaft

Als Pätter/Giedel vun dem IBLA-Reewiermchen weise mir dir wou hien iwwerall an eisen Versich aktive ass. An och du kanns dein IBLA-Reewiermchen als Schlüsselanhänger iwwerall mat dobä hunn.

Patenschaft: 25€



#### Gromperen-Patenschaft

Als Pätter/Giedel vun denger Gromper ënnerstëtzt du eisen Gromperensortenversuch. An du kanns och live iwwert d'Joer d'Wuessen vun denger Gromper matverfollegen, an herno hiren Aroma beim Kachttest mat entdecken.

Patenschaft: 50€

Iwwerweis deng Pateschaft op de Konto  
IBLA Luxembourg  
BCEELULL LU59 0019 2655 3563 7000

Vermierk:

- „Regenwurmpatenschaft“
- „Sortenpatenschaft + Name deiner Sorte“



MACHEN SIE EINE SPENDE  
MIT HILFE IHRER DIGICASH APP

- #1 Scannen Sie diesen QR-Code mit der Digicash App
- #2 Geben Sie Ihren Spendenbetrag ein
- #3 Bestätigen Sie mit Ihrem Fingerabdruck oder PIN Code



[www.ibla.lu](http://www.ibla.lu)



Den Erléis kennt der Biolandbau-Fuerschung vum IBLA ze gull.  
Mê Info'en fann Dir op <http://ibla.lu/ibla-hueden-2/>  
Spenden un d'IBLA kënn vum besteebarem Akommes ofgesot ginn.



## EVENTS & SEMINARS

### > COOKING TEST OF THE POTATOES FROM THE ORGANIC VARIETY TRIAL IN 2017 /

7.2.2018, LTA Ettelbruck  
**Organisation:** IBLA Research & Development

### > LEGUTEC KICK-OFF MEETING /

16.2.2018, Munsbach  
**Organisation:** IBLA Research & Development, and partners  
**Subject:** Opening event for the LeguTec project

### > 7. LEGUME DAY /

2.3.2018, Ettelbruck  
**Organisation:** IBLA Research & Development  
**Subject:** Legumes and soil fertility  
**Speakers:** Prof. Dr. Christoph Emmerling (University of Trier), Prof. Dr. Knut Schmidtke (Dresden University of Applied Sciences), Dr. Stéphanie Zimmer (IBLA), Gilles Altmann (IBLA), Laura Leimbrock (IBLA)

### > GENERAL ASSEMBLY /

6.3.2018, Kass-Haff  
**Organisation:** IBLA

### > INNOVATION WORKSHOP /

17.4.2018, Kass-Haff  
**Organisation:** IBLA Agriculture Consulting

### > WHAT'S THAT FLYING OVER THERE? BIODIVERSITY IN VITICULTURE /

5.6.2018, Ahner Palmberg  
**Organisation:** IBLA Viticulture Consulting, and IVV  
**Subject:** Diurnal butterflies in the vineyard  
**Speaker:** Lea Jäger

### > KICK-OFF MEETING SUSTEATABLE /

4.9.2018, Luxembourg City  
**Organisation:** IBLA Research & Development  
**Subject:** Opening event and presentation of the SustEATable project  
**Participants:** Minister of the Environment Carole Dieschbourg, Joëlle Welfring and Claudine Lorang representing the 'Oeuvre Nationale de Secours Grande-Duchesse Charlotte', Patrick Kolbusch (BIOGROS S.A.), Sigmund Walbaum (OIKOPOLIS S.A.), and the project's advisory board (28 members)

### > 3<sup>RD</sup> EDITION OF „UNIVERSITÉ DU VIVANT“ /

21. & 22.9.2018,  
**Organisation:** Université du Vivant, LTA, IBLA Research & Development  
**Subject:** Seminar on the concept of organic agriculture and its socio-economic environment: what future to build?  
**Presentation:** Gilles Altmann, Claude Felten

### > KICK-OFF MEETING 2000 M<sup>2</sup> /

3.10.2018, Kockelscheuer  
**Organisation:** IBLA Research & Development and partners  
**Subject:** Project launch with field inspection 2000m<sup>2</sup> for our food  
**Participants:** Minister of the Environment Carole Dieschbourg and around 25 participants

### > SOIL SEMINAR /

18.10.2018, Koerich  
**Organisation:** SES, IBLA  
**Subject:** Healthy soil – healthy plants – clean water  
**Presentation:** Gilles Altmann, Rudolf Leifert

### > OENOLOGICAL SEMINAR /

10.12.2018, Remich  
**Organisation:** IBLA Viticulture Extension Services and IVV  
**Subject:** Terroir - Is there really stone in my wine?  
**Speaker:** Martin Darting

### > CATTLE BREEDING IN ORGANIC FARMING - PART 1 /

22.10.2018, Ettelbruck  
**Organisation:** IBLA Agriculture Consulting  
**Subject:** The necessity of cattle breeding within organic farming  
**Speaker:** Prof. i. R. Haiger (Vienna University)

### > CATTLE BREEDING IN ORGANIC FARMING - PART 2 /

13.12.2018, Deudesfeld/Germany  
**Organisation:** IBLA Agriculture Consulting  
**Subject:** The significance of genomic breeding valuation in cattle breeding, followed by a tour of the business  
**Speakers:** Uwe Müller (RUW Rinder-Union West), Friederich Fösges (Farmer)



## EDUCATION & RESEARCH

### > RESEARCHERS AT SCHOOL (CHERCHEURS À L'ÉCOLE) /

23.3.2018, LTA Ettelbruck  
**Organisation:** FNR  
**Subject:** Research in Organic Agriculture  
**Presentation:** Laura Leimbrock

### > LECTURE AT THE UNIVERSITY OF LUXEMBOURG /

8.5.2018, Luxembourg City  
**Subject:** Lecture at the University of Luxembourg in the context of the "Certificate in Sustainability and Social Innovation"  
**Presentation:** Evelyne Stoll

### > SEMINAR ON NATURE CONSERVATION /

June/July 2018, Trier/Germany  
**Subject:** Teaching event at the University of Trier  
**Lecturer:** Laura Leimbrock

### > ASSESSMENT OF SUSTAINABILITY IN THE AGRICULTURAL SECTOR /

12.10.2018, Ettelbruck  
**Organisation:** LTA  
**Presentation:** Evelyne Stoll



## FIELD INSPECTIONS & EXCURSIONS

### > OFFICIAL FIELD INSPECTION AND PRESENTATION OF THE LEGUTEC PROJECT /

8.6.2018, Manternach

**Organisation:** IBLA Research & Development, LTA, Geocoptix GmbH, Wolff Weyland S.A.

**Participants:** Her Royal Highness Hereditary Grand Duchess Stéphanie, Minister of Agriculture Fernand Etgen, President of "Oeuvre Nationale de Secours Grande-Duchesse Charlotte" Pierre Bley and more than 200 interested participants

### > FIELD INSPECTION OF THE BETTENDORF TRIAL FIELDS /

15.6.2018, Bettendorf

**Organisation:** LTA, Centrale Paysanne Luxembourgeoise

**Subject:** Presentation of the LeguTec project

### > OFFICIAL FIELD INSPECTION OF THE CEREAL VARIETY TRIAL /

5.7.2018, Bettendorf

**Organisation:** Luxembourg Variety Commission, LTA and IBLA Research & Development

**Presentation:** Dr. Sabine Keßler

### > OFFICIAL EVENING FIELD INSPECTION OF THE SOY VARIETY TRIAL /

12.7.2018, Cruchten

**Organisation:** IBLA Research & Development, LTA

**Presentation:** Dr Stéphanie Zimmer

### > SHORT EXCURSION: WALLIS (CH) /

10. - 12.8.2018, Wallis / Switzerland

**Organisation:** IBLA Viticulture Consulting

**Subject:** Innovations in Crop Protection. Machine demonstration: Crop protection drones – Agrofly drone

**Presentation:** Sonja Kanthak

### > FIELD INSPECTION OF THE CORN TRIAL /

23.8.2018, Keispelt-Meispelt

**Organisation:** IBLA Agriculture Consulting, Ville de Luxembourg, SES, LWK

**Presentation:** Gilles Altmann

### > VISIT OF THE DEMONSTRATION FARM KARELSHAFF /

24.9.2018, Karelshaff

**Subject:** Farm visit with Czech farmers and representation of organic agriculture

**Presentation:** Gilles Altmann

## TALKS

### > TALK AT B51 /

25.1.2018, Lipperscheid

**Subject:** Presentation of IBLA and the SustEATable project

**Presentation:** Dr. Stéphanie Zimmer

### > CLIMATE INNOVATION LAB /

3. & 4.2.2018, Luxembourg

**Subject:** Agriculture and climate

**Presentation:** Dr. Stéphanie Zimmer, Dr. Phillipe Delfosse

### > LUXEMBOURG CITY INFORMATIONAL EVENT /

06.2.2018, Rollingergrund

**Organisation:** Ville de Luxembourg

**Subject:** Pilot projects, City's 2017 balance of accounts and 2018 projections

**Presentation:** Gilles Altmann

### > INFORMATIONAL EVENT ON SPRING CROP VARIETIES /

6.2.2018, Beringen

**Organisation:** LSG

**Subject:** Presentation of the results from the grain legume and potato variety trials

**Presentation:** Laura Leimbrock

### > PRESENTATION OF THE „CO<sub>2</sub>MPOSITIV" PROJECT. ONE OF THE 10 WINNERS OF THE „YES WE CARE" CALL FOR PROPOSALS /

8.2.2018, Luxembourg

**Organisation:** Oeuvre Nationale de Secours Grande-Duchesse Charlotte Luxembourg

**Subject:** Presentation of the CO<sub>2</sub>MPOSITiv project in furtherance of the optimisation of organic material cycles in Luxembourg viticulture

**Presentation:** Sonja Kanthak

### > INFORMATIONAL EVENT ON WINTER CROP VARIETIES /

29.8.2018, Beringen

**Organisation:** LSG

**Subject:** Presentation of the results from the winter cereal variety trials

**Presentation:** Gilles Altmann

### > INTRODUCTION TO ORGANIC FARMING /

11.10.2018, Weiswampach

**Organisation:** Bio-Lëtzeburg, IBLA Agriculture Consulting

**Subject:** Soil - nurture, care, preservation and restoration using organic farming methods

**Presentation:** Rudolf Leifert



## FAIRS

### > TRANSITION DAYS /

9. & 10.3.2018, Luxembourg City

**Organisation:** CELL

**Motto:** Our Food, our Future

**Presentation:** Evelyne Stoll

**Exhibition stand:** IBLA introduced itself and SMART

### > FOIRE AGRICOLE /

9.7 - 1.7.2018, Ettelbruck

**Exhibition stand:** IBLA presented the LeguTec project, the soy variety trial and the chick sponsorship project; IBLA further organised a workshop for children

### > POISONOUS FARMING AND ITS PRICE /

8. & 9.6.2018, Belle Etoile Luxembourg

**Exhibition stand:** IBLA information booth and official opening of the photo exhibition

**Presentation:** Gilles Altmann

### > WEEK OF AGRICULTURAL MACHINERY („SEMAINE DE LA MACHINE AGRICOLE“) /

18. - 22.10.2018,

**Organiser:** Wolff-Weyland S.A,

**Exhibition stand:** IBLA presented the LeguTec project

## PARTICIPATION IN CONFERENCES

### > CONSULTANT CONFERENCE ON ORGANIC VITICULTURE /

8. & 9.3.2018, St. Ulrich / Switzerland

**Organisation:** FiBL

**Participant:** Sonja Kanthak

### > RFL2 – FRANCOPHONE LEGUME MEETINGS /

17. & 18.10.2018, Toulouse / France

**Poster:** Mechanical weed control in organic soy cultivation in Luxembourg

**Organisation:** INRA, cirad, Terres Univia, Terres Inovia

**Presentation:** Laura Leimbrock

### > SOY CONFERENCE /

23. & 24.10.2018, Würzburg / Germany

**Poster:** LeguTec – Mechanical weed control in soy cultivation in Luxembourg

**Organisation:** LfL, LVÖ

**Presentation:** Laura Leimbrock

### > ICOAS – 6TH INTERNATIONAL CONFERENCE ON ORGANIC AGRICULTURE SCIENCES /

7. & 8.10.2018, Eisenstadt / Austria

**Poster:** On the suitability of different grain legume species for organic fodder production in Luxembourg and Germany regarding to their nutritive and antinutritive ingredients

**Poster:** LeguTec – Mechanical weed control in soybean cultivation in Luxembourg

**Organisation:** FiBL, ÖMKi, LfL, UKZUZ, Ministry of Agriculture and Rural Development Poland, University of Agriculture in Nitra Slovakia

**Presentation:** Dr. Sabine Keßler, Laura Leimbrock

### > DIVERSIFOOD – CULTIVATING DIVERSITY AND FOOD QUALITY | GENERAL ASSEMBLY ECO-PB /

10. - 13.12.2018, Rennes / France

**Poster:** On the suitability of different grain legume species for organic fodder production

**Organisation:** INRA, FiBL

**Presentation:** Gilles Altmann



## LEGUTEC FIELD INSPECTION

### **Soy made in Luxembourg - Official field inspection and presentation of the LeguTec project**

As part of the LeguTec project, IBLA (Institut fir Biologesch Landwirtschaft an Agrarkultur Luxemburg a.s.b.l.) and its partners, the Lycée Technique Agricole (LTA), Wolff-Weyland S.A. as well as Geicoptix GmbH, organised an official field inspection of the LeguTec trial area on 8<sup>th</sup> June 2018 on the premises of the Mehlen organic farm in Manternach.

A large audience of more than 200 visitors, including Her Royal Highness The Hereditary Grand Duchess Stéphanie, the Minister of Agriculture Mr Fernand Etgen, the President of the Oeuvre Nationale de Secours Grande-Duchesse Charlotte Mr Pierre Bley, as well as a large number of farmers and other interested parties could get an idea of the research done regarding the regional cultivation of soybean in Luxembourg.

The detailed description of the LeguTec project can be found on page 25.



## FOIRE AGRICOLE 2018

### Gëff Pätter/Giedel vun engem Jippelchen - Becoming a godparent to a chick

At the Foire Agricole, which took place from 29<sup>th</sup> June to 1<sup>st</sup> July 2018 in Ettelbruck, IBLA launched the following call to action: Become a godparent to a chick! Many followed this call and became proud godparents of a chick belonging to the non-hybrid dual-use breed "Les Bleues", the "Romeo & Juliet" chickens. Usually, the farmer has to make a choice between broilers and laying hens. This dual purpose breed can do both. The female chicks grow up to become laying hens. However, the male chicks are not killed on the first day, as is custom in everyday laying-hen keeping; instead, they are raised and fattened.

Our chicks hatched at the Foire Agricole, which could be witnessed live, not only on site, but also over the Internet. The little chicks immediately proceeded to put a spell on the attendees of the children's workshop "What is a chick and what does it eat?"

During his visit to the Foire Agricole, His Royal Highness Grand Duke Henri learnt about our LeguTec project; of course, he was not immune to the charm of our flock of chicks, either. Not only the Assistant Minister for Higher Education and Research Marc Hansen, but also Minister of the Environment Carole Dieschbourg went ahead and became godparents to a chick.

On 2<sup>nd</sup> July 2018, the chicks arrived at their new home, the "Naturhaff Derenbach" farm. Arielle, Henriette, Jaempi, Sonny, Shogun, Mango, Calimero & o. immediately adjusted to their new surroundings. Meanwhile, Téli and Crani (the chicks of Télécran), Trixa, Lena, Tinchén and their friends moved into a large stable on the grounds of the "Naturhaff" where they rapidly began exploring the meadow.



### RESEARCHING TOGETHER FOR AGRICULTURE

In 2018, IBLA intensified its collaboration with both the Luxembourg Institute of Health (LIH) and the Luxembourg Institute of Science and Technology (LIST) while also carrying out projects together.

These five-year agreements provide, among other aspects, for the development and implementation of common projects, the co-authoring of publications as well as the exchange of employees.

IBLA has already signed such cooperation agreements with the Research Institute of Organic Agriculture (FiBL) and the Lycée Technique Agricole Ettelbrück (LTA). These partnerships are part of IBLA's efforts to make an important contribution to the future development of sustainable agriculture in Luxembourg.



### ACCREDITATION („AGRÉMENT“)

In the past, the status of 'research institute' was reserved for well-known national organisations such as LIST or the University of Luxembourg. This changed when a new law proposed by the Ministry for Research also allowed for smaller associations and enterprises to be officially recognised as research institutes, so long as the standard of scientific study was ingrained within their by-laws. This change in legislation authorises the institutions in question to acquire EU funding for research projects. Since being awarded the „Agrément“ in 2015, IBLA has been able to assume the role of autonomous project partner in European research projects.

### PERFORMANCE CONTRACT („CONTRAT DE PERFORMANCE“)

In 2015, IBLA was first offered a performance contract („Contrat de performance“) by the Ministry for Research. Said contract has been renewed on an annual basis ever since. It serves as a kind of core funding in order to guarantee the future development and quality improvement of IBLA's R&D Department. The „Contrat de performance“ comes attached with a number of performance-oriented conditions IBLA has to fulfil.

## RESEARCH AND DEVELOPMENT

IBLA's Research and Development Department was founded in 2009. Apart from the study and development of practical methods for an organic and biodynamic agriculture, the objectives of the R&D Department include the examination of the socially relevant aspects of farming. Moreover, the promotion of education in organic and biodynamic agriculture plays an important role.

The IBLA team works on various national and international research projects with a focus on crop breeding, legumes, soil and water protection, circular economy and sustainability assessment.

With the launch of the LeguTec project, which explores mechanical weed control in the cultivation of soy, in 2017, the thematic focus on legume cultivation could be further intensified. Sustainability assessment also played an important role in 2018. The SustEATable project („Integrated analysis of dietary patterns and agricultural practices for sustainable food systems in Luxembourg“) will see agricultural farms analysed in terms of their overall sustainability. These results will be collected to inform the sustainability assessment of the Luxembourg food system in a second phase of the project. Moreover, the projects “CO<sub>2</sub>MPOSiTiv” and “2,000 m<sup>2</sup> for our food” were launched.

By collaborating on various scientific projects, IBLA is actively involved in several national and international research networks. In particular, it closely cooperates with the Lycée technique agricole (LTA), the Luxembourg Institute of Science and Technology (LIST), the Luxembourg Institute of Health (LIH), the FILL in Luxembourg and the FiBL in Switzerland.

In addition, IBLA is in charge of the organic variety trials in Luxembourg (winter crops since 2009, spring peas and spring fava beans since 2016, potatoes also since 2016, and soybeans since 2018).





## PROJECTS IN THE YEAR 2018

In 2018, IBLA implemented 14 projects:

### Projects within the framework of the action plan for organic agriculture in Luxembourg

- Information brochures on organic agriculture
- Demonstration farms showcasing organic farming
- Soybean variety trials in organic agriculture
- Potatoe variety trials in organic agriculture
- Study on the soybean requirements of Luxembourg
- Cultivation of organic malting barley in Luxembourg

These projects were commissioned and (co-)funded by the Technical Services Administration for Agriculture, a department of the Ministry of Agriculture, Viticulture and Consumer Protection (“Administration des services techniques de l’Agriculture”, ASTA) within the context of the national action plan for organic agriculture.

### Further projects in 2018

- Winter cereal variety trials in organic agriculture
- Spring pea and spring faba bean variety trials in organic agriculture
- LeguTec
- EIP Agri Rhineland-Palatinate „Grassland and animal health“
- SustEATable
- 2,000 m<sup>2</sup> for our food
- CO<sub>2</sub>MPOSiTiv
- Pilot project „Schlassbiere“





## INFORMATION BROCHURES ON ORGANIC AGRICULTURE

Providing farmers with additional information on the basics of organic farming and introducing them to new, scientific and practice-related findings requires detailed, practitioner-oriented material. Cooperation with European partners allows for the distribution of technical information brochures among organic farmers and other interested parties in Luxembourg. This facilitates access to extensive know-how and the latest research from abroad.

In 2018, leaflets on a variety of topics were again provided at various industry events. At the Agricultural Fair in Ettelbruck, the distributed leaflets on „Free-range chicken husbandry“ and „Chicken rearing in organic farming“ matched the topic of protein autarky in poultry farming; the objective was to facilitate visitors' access to in-depth information about broiler and laying-hen husbandry in organic farming.

### **Calf rearing involving mother cows and nursing cows in dairy farming**

Farmers show increasing interest in calf breeding involving mother cows and nursing cows. More and more dairy farmers want to let their calves stay with their mothers for a longer period of time while still milking the latter. This way, the cow and the calf can experience a more intense natural relationship. Some farmers have gained experience with calf rearing involving mother cows and nursing cows and have subsequently developed their own procedures. This fact sheet details said procedures and makes them accessible to other dairy farmers. The guide provides numerous ideas for implementing this way of calf rearing and appropriate stable furnishings. In 2018, the leaflet was supplemented and revised by all partners and is now also available as a print version.

As part of a series of events on the topic of „Mother-bound calf rearing“ in November 2018 on the Kass-Haff farm (organised by Bio-Lëtzebuerg in technical collaboration with IBLA), this leaflet was presented as informational support material. 26 interested parties attended the lecture on 20<sup>th</sup> November 2018. The following day saw about 20 participants turn up for a seminar on maternal calf rearing.

IBLA is in constant communication with the partners to participate in the revision and updating of the information sheets as well as to propose new leaflets on currently significant topics with the support of the Ministry of Agriculture and ASTA. Various meetings and discussions took place during a 2018 visit to FiBL in Switzerland to discuss current topics such as soil cultivation and water protection.

**Project partner**

**Funding**

**FiBL**



## ORGANIC DEMONSTRATION FARMS

The network of demonstration farms in Luxembourg was launched in order to enable consumers to experience organic farming and to promote knowledge and experience sharing between farmers. As of 2018, the network consisted of a total of nine organic farms, organising professional exchanges between colleagues, visits by nursery schools and school classes, and guided tours for groups of consumers several times a year. On average, each farm organises eight events a year. The demonstration farms in question show-case how versatile organic agriculture can be.

| Demonstration farm  | Site manager                                   | Main area of activity   |
|---|--|---|
| <b>Jeekel's Haff</b><br>Pétange   | Guy Arend-Stemper                              | Suckler cow husbandry, crop production, grassland, seed multiplication, farm shop                                 |
| <b>Bio-Haff, an Dudel</b><br>Sprinkange                                 | Marc Emering                                   | Chicken fattening, crop and fruit production, seed propagation  |
| <b>„A Mechels“</b><br>Harlange  | Marco Koeune                                   | Dairy farming, crop production, grassland   |
| <b>Karelshaff</b><br>Colmar-Berg  | Jean-Louis Colling-von Roesgen                 | Suckler cow husbandry, crop production, grassland, seed propagation, chicken fattening                            |
| <b>Schanck-Haff</b><br>Hupperdange                                      | Jos Schanck                                    | Dairy farming, crop production, grassland, vegetable cultivation, BIOG cheese dairy, Naturata farm shop           |
| <b>Domaine Sunnen-Hoffmann</b><br>Remerschen                            | Yves Sunnen und Corinne Kox-Sunnen             | Viticulture and wine trade, grape juice, table grapes   |
| <b>Bio-Haff Baltes „A Schiewesch“</b><br>Stegen                         | Daniel und Myriam Baltes-Alt                   | Goat husbandry, goat cheese production, suckler cow husbandry, crop production                                    |
| <b>Naturhaff</b><br>Derenbach   | Céline Girard und Christian Mathieu            | Suckler cow husbandry, laying hen husbandry, conservation of the breeds "Ardennais Roux" and "White Polled Heath" |
| <b>Bio-Gärtnerei „Op der Schanz“</b><br><b>Altréier SARL</b><br>Altrier | Carlo und Maggy Demuth,<br>Hugo Krijnse-Locker | Vegetable cultivation (outdoors and in greenhouses), seedlings and herbs  |

As in previous years, the 2018 events at the demonstration farms attracted people from various areas and of all ages as well as different backgrounds. Practitioners could interact during field inspections. Farmers interested in converting their holdings to organic agriculture got to know organic agriculture and ask any questions they might have had. The nine demonstration farms, which are located throughout the country, welcomed approximately 1,000 visitors and hosted 62 events in total. The demonstration farms continue to serve as an ideal means to promote, support and make organic farming accessible to the public.

### Funding:



LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG  
Ministère de l'Agriculture,  
de la Viticulture et de la  
Protection des consommateurs  
Administration des services techniques  
de l'agriculture



## SOYBEAN VARIETY TRIAL IN ORGANIC AGRICULTURE

Soybeans have high warmth and water requirements; however, thanks to new varieties, soybeans no longer exclusively grow in ideal climate conditions. This represents an opportunity to increase protein autarky in Luxembourg. Therefore, following the first cultivation in Bettendorf in 2014, organically grown soybean variety trials were sown for the second time in 2018, this time in Cruchten. The trial assessed 17 varieties of soy in terms of their yields and protein contents, including 12 varieties of the maturity group 000, two varieties of the maturity group 000/0000 and three varieties of the very early maturity group 0000. The evaluation of the varieties took into account the development, yield and qualitative parameters.

As it turned out, some varieties of the early maturation groups were already ready to be harvested in late August, whereas other varieties ripened in mid-September. In fact, the early-maturity varieties were already ripe on 23<sup>rd</sup> August 2018 (Augusta and Obelix) and on 3<sup>rd</sup> September 2018 (Amandine), respectively. For this reason, the yield structure was determined at each maturity date and the yields were evaluated not only at the moment of threshing, but also at the respective maturity date. The average yield of the experiment was 19.5 dt/ha for the harvest date on 19<sup>th</sup> September 2018 and 20.6 dt/ha for the calculation of the yield from the rating of the yield structure at the respective maturity date of the variety. These differences between the yield to harvest and to maturity are due to the bursting of the pods and to the falling out of the soybeans after maturity, since the optimal time for threshing had already passed. The average protein content in the variety trial reached very high levels of 44.7% with little difference between the varieties.

Given that the year has also been very difficult for soybean cultivation due to long-lasting dry spells and considering that the produced results are from one year only, it makes sense to wait for the 2019 and 2020 results before recommending any soy varieties.

The evening field inspection of the organically grown soybean variety trial took place on 12<sup>th</sup> July 2019 with the Lycée Technique Agricole (LTA) on the Noesen organic farm in Cruchten. The field inspection was well attended by more than 40 interested farmers. The results were presented to the National Variety Commission on 15<sup>th</sup> January 2019 and at the variety information event on 24<sup>th</sup> January 2019.

### Project partner



### Funding





## POTATO VARIETY TRIAL IN ORGANIC AGRICULTURE

2018 saw the third consecutive year of potato variety trials on the Fischbach farm. The very high quality standards, to which both the trade associations and the consumers hold the potatoes, require utmost care with regards to the preparation of the planting material, plant protection, nutrient and water supply as well as the harvest and storage of the crop. In fact, the quality of potato tubers can be influenced in no small way before, during, and after cultivation.

The proper variety selection plays an important role in organic farming. Given the absence of mineral fertilisers and chemical/synthetic pesticides, preference should be given to varieties that develop rapidly in the initial growth stages, whose tubers are prone to sprout early, and that exhibit a low susceptibility to disease, a low nitrogen requirement and a rapid herbage development in order to ensure a successful harvest. However, farmers mainly cultivate varieties that are commercially in demand. In this case, the wishes of consumers and trade as well as the intended use of the potatoes inform the choice of the potato variety. In contrast, direct sellers have a slightly larger margin when choosing a variety.

To be able to provide organic farms in Luxembourg with useful results, the first potato variety trial was launched in Luxembourg in 2016 and repeated the following two years. Consequentially, after the third trial year, a recommendation can be issued for the first time.

In this context, 17 potato varieties were examined in terms of their suitability for agricultural cultivation and market appeal. On 15<sup>th</sup> January 2019, Anuschka and Belana (early potato varieties) as well as Nicola and Allians (medium early to medium late potato varieties) were included by the National Variety Commission on the national variety list as recommended for organic cultivation.

**Project partners:**

**Funding:**





## STUDY ON THE SOYBEAN REQUIREMENTS OF LUXEMBOURG

In the diet of our livestock, protein feeds play an important role. Around 70% of the European protein feed requirement for pigs, poultry and cattle are covered by soybean meal. This is due to the fact that soybean boasts a protein content of 40%, much higher than other grain legumes, as well as an extremely high biological value (ideal amino acid composition). Their high levels of lysine and methionine, two essential amino acids, means soybeans are especially suited to the diets of monogastric animals such as pigs and poultry. However, the need and specifically the real consumption of soybean meal in our regions is much higher than the supply. The soy autarky of Europe currently amounts to only 4%. Europe is therefore heavily dependent on imports from predominantly North and South America, which brings about ecological and social problems: genetically modified soy, monocultures with high pesticide use, rainforest destruction and land displacement.

At the political level, these problems were also recognised. In the „European Soy Declaration“, which Luxembourg has also signed, the countries commit among other things, to promoting regional soybean production as well as other protein crops. Of course, grassland is also taken into consideration as an important protein source, especially for ruminants. Another goal is to develop regional soybean value chains, from regional cultivation to processing to commercial exploitation. Furthermore, the demand for genetically unmodified soy is rising in both poultry and dairy cattle feeding in Luxembourg.

Thanks to new breeding advances, however, soybean no longer requires optimal heat conditions to grow and can thus also thrive in Central Europe. Besides supplying protein, soybean can be used in other ways in agriculture thanks to its manifold positive features. However, the cultivation of soybean is demanding and processing possibilities for the raw material are currently missing in Luxembourg. To be able to develop appropriate strategies to increase the national soy autarky, it is important to first know Luxembourg's soybean requirements.

Therefore, the aim of this study was to calculate the current soybean requirements in Luxembourg. This project lists the soy consumption in Luxembourg, following several categories: organic farming, conventional farming, and different animal categories (poultry, pigs and cattle). The calculation is an estimate based on the available official data.

### Funding:





## CULTIVATION OF ORGANIC MALTING BARLEY IN LUXEMBOURG

At the initiative of the Brasserie Nationale S.A. and in collaboration with ASTA, the project for the cultivation of organic malting barley was launched in 2018. The Brasserie Nationale S.A. currently produces organic-quality beer, but has to rely on malting barley supplies from abroad. Since the brewery intends to use locally grown organic barley in the future, the plan is to cultivate organic malting barley for this purpose in Luxembourg in 2019. The malting barley is then delivered to “Mouterij Dingemans” in Belgium for malting, before being brewed into organic beer at the Brasserie Nationale. The cultivation of malting barley has decreased sharply in Luxembourg. Yet, quality barley represents a lucrative alternative to other crops and can also help to extend the crop rotation.

The „fiche technique“ (“technical data sheet”) of “Mouterij Dingemans”, literary references, and the results of a consultation with the Brasserie Nationale on the quality requirements for malting barley all informed the discussion on the feasibility of growing organic malting barley in Luxembourg and the search for suitable sites. IBLA subsequently talked to the Laboratoire national de la santé (National Health Laboratory) and ASTA about the sampling procedures of malting barley for guaranteeing maximum quality with regard to mycotoxin and pollutant load up to the point of delivery to the malting house .

After organising a preparation and storage facility to be used until the delivery of the barley to the malting facilities, IBLA searched for farms willing to grow malting barley on their fields. IBLA was specifically looking for organic farms with multiple years of experience and an appropriate sites for the cultivation of organic malting barley in Luxembourg. In 2019, four certified organic farms will initially be growing malting barley on ca. 17 hectares. The variety to be planted was selected based on results and variety recommendations from national and regional variety trials. However, the determining factor was the variety recommendations from the Berlin program.

The Avalon variety was chosen because it is known as high-yielding and reliable, and the Brasserie Nationale had made positive experiences with it in the past. IBLA’s consultants advised farmers throughout the cultivation process, from growing and crop management to harvesting and storage. IBLA ensures the quality assurance in collaboration with ASTA and the malting facility.

### Project partner:





## WINTER CERERAL VARIETY TRIALS IN ORGANIC AGRICULTURE

In 2017/2018, the variety trials for organically grown winter crops were planted in Hupperdange (as in previous years), as well as in Bastendorf – for the first time since a switch in location from Colmar-Berg. Three crop species were selected for the trials: winter triticale, winter rye and winter wheat. 35 varieties of wheat were studied, 15 of them organic breeds. Moreover, the trials included 9 varieties of triticale and 11 varieties of rye (3 of them organic seeds). The assessment of the varieties took into account plant development of the respective varieties as well as yield and quality parameters.

The winter crop variety trial underwent some changes in the 2017/18 season. So far, the trials have generally been conducted with field fodder as a previous crop and without additional fertilisation in the spring. Many organic farmers, however, fertilise their winter crops with slurry in the spring. After feedback from several organic farmers, IBLA decided to adapt the fertilisation of the trials to the standard procedures and applied slurry in the spring. Thus, the results of the variety trial are a more accurate reflection of the yields achievable in practice.

Generally, the 2017/18 season was characterised by snow-free, cold days in winter, followed by an initially wet spring and a long-lasting dry early and mid-summer. The winter crop yields of the 2017/18 cultivation year were high compared to the previous years. The winter rye generated an average yield of 45.4 dt/ha, (vs. 27.1 dt/year in 2016/17 and 31.2 dt/ha in 2015/2016). For winter triticale, the average yield was 38.1 dt/ha, compared to 27.2 dt/ha (2016/17) and 23.0 dt/ha (2015/16). Also, the yield of winter wheat was relatively high at 36.2 dt/ha (2016/17: 24.8 dt/ha; 2015/16: 22.5 dt/ha). Only further trials with additional fertilisation in the coming years will allow to determine whether these yield increases are the sole consequence of the slurry application in spring or the result of a combination of fertilisation and annual fluctuations.

Regarding the winter wheat, the type A wheat “Franz” was included as a recommendation for organic farming on the official national variety list, while the type E wheat “Jularo” was removed from the list (national variety commission meeting of 21<sup>st</sup> August 2018). Thus, “Govelino” and “Florian” (both type E wheats), “Franz” (type A wheat) and “Elixer” (type C wheat) are now on the national variety list. The latter further includes “Tulus” for winter triticale and “Elias” (instead of Dukato) for winter rye .

The official field inspection on 5<sup>th</sup> July 2018 was organised by the National Variety Commission in cooperation with IBLA and LTA and was attended by the Minister of Agriculture Fernand Etgen. The results of the winter crop trial were presented at the variety information event on 29<sup>th</sup> August 2018.

**Project partner:**

**Funding:**





## SPRING PEA AND SPRING FABA BEAN VARIETY TRIALS IN ORGANIC AGRICULTURE

In 2018, the organic spring grain legume trials were conducted for the third time in Colmar-Berg and Bous. Two experimental crops were selected: spring pea and spring faba bean. The trials involved a total of 16 spring pea and 11 spring faba beans varieties. The variety assessment took into account plant development, yield and quality parameters.

Generally, the 2018 season was characterised by a long, dry early and mid-summer. Very humid conditions during spring at the Bous location led to losses in spring pea yields, as they did not develop well; however, the faba beans exhibited very good growth.

The average spring pea yield of 22.1 dt/ha is comparable to previous cultivation years (2016: 25.1 dt/ha; 2017: 21.6 dt/ha). However, at 26.4 dt/ha, the average yield produced at the Karelshaff site is significantly higher than the one obtained at the Bous site (17.8 dt/ha). The faba beans showed high yields of 34.6 dt/ha in Bous and lower yields at Karelshaff with 21.8 dt/ha.

The spring pea variety “Alvesta” was included on the national variety list as a recommendation for organic farming (national variety commission meeting on 4<sup>th</sup> December 2018). When it comes to spring faba beans, the variety “Fanfare” is recommended by the commission, same as for conventional agriculture. In addition, the “Bioro” variety, an organic breed, is recommended to farmers, albeit not included on the national variety list.

**Project partner:**

**Funding:**







### **Sustainable, resource-efficient protein production by mechanical herbicide-free weed-regulation techniques in grain legume cultivation using the example of soybean**

With a protein content of about 40% and a very high biological value due to an ideal amino acid composition, the soybean (*Glycine max* (L.) Merr.) constitutes one of the most important protein sources in animal feeding. As one of the EU states that have signed the European Soybean Declaration (2017), Luxembourg has committed to promoting the regional cultivation of soybeans and other protein-rich crops. The main reason for this is the current dependency on imports mainly from North and South America. Far more than 60% of the required soybeans are imported, with which various environmental and social problems go hand in hand. Thanks to new breeding, soybean no longer exclusively grows in optimal temperature regions, which represents an opportunity for boosting soybean production in Luxembourg. However, the organic cultivation of soy is demanding; in addition to Luxembourg not being able to guarantee all the steps of soybean processing (toasting, etc.), the expertise in efficient, sustainable weed management is lacking.

During two consecutive years of cultivation (2018 and 2019), the experimental design of the LeguTec project involves a 1-factorial exact trial on three agricultural fields in Luxembourg (Mehlen organic farm in Manternach, Emering organic farm in Sprinkange and the François organic farm in Hostert). It also includes an additional on-farm strip trial on the trial site of the Lycée Technique Agricole (LTA) in Bettendorf. Five different weed control methods are being tested in four replicates in the exact trial. The methods in question are: a) harrow, b) hoe with goosefoot-shares, c) hoe with goosefoot- and finger-shares, d) flexible system, a combination of harrow and hoe, the choice depending on location and weather conditions, and e) mixed cultivation of soy and camelina with harrow treatment. A negative control, in which no weed control methods are applied, and a positive control, in which the parcels are manually kept weed-free, are also taken into account. The biomass and coverage of weeds and crops, the number and type of weed species, as well as the number of crop plants are recorded before and after each weed control treatment, at flowering and at harvest. The objective is to evaluate the efficiency of the applied techniques and to assess possible plant damage. The company Geicoptix GmbH complements the assessments with the help of drone-supported aerial photography using various true-colour and multispectral imagery.

The project is meant to showcase the modern possibilities in grain legume cultivation opened up by the mechanical weed control methods, which promote a sustainable and resource-efficient protein production in Luxembourg.

## Project year 2018

The LeguTec project had a successful start into the soy season with the kick-off meeting on 16<sup>th</sup> February 2018. Due to the warm spring, the four trial fields could already be sown in April; with the trial strip in Bettendorf being the first, followed by the exact trials in Manternach, Hostert and Sprinkange, respectively. Four days after sowing, all harrow variants were blind-curved. About four weeks later, the soybean was developed far enough for it to be curved and hoed. The manual assessments before and after each weed control treatments, as well as at flowering and at harvest were supplemented by the drone-supported aerial photographs. The treatment at the Bettendorf trial site was carried out by the LTA in cooperation with the students. Starting at the end of August, the trial sites were harvested with help from the LTA and various harvesting parameters were recorded.

Given that communication towards an outside audience is an important part of the project, an official field inspection took place on 8<sup>th</sup> June 2018 in Manternach, sparking widespread public interest. Other activities included the Foire Agricole in Ettelbruck, the field inspection in Bettendorf, as well as the poster presentation at three international scientific conferences.

**Project duration:** October 2017 – September 2020

### Project partners:



Mehlen organic farm, Manternach; François organic farm, Hostert, Emering organic farm „An Dudel“, Sprinkange

### Funding:



Project carried out with the support of the King Baudouin Foundation and the National Lottery.



## **EIP „GRASSLAND AND ANIMAL HEALTH IN THE EIFEL REGION"**

**This project addresses the optimisation of permanent grassland, pasture management, multiannual arable feed crop production and feed preservation; its objective is to sustainably improve the economic viability, animal health, and value creation of dairy farming in the grassland region in a sustainable way.**

Recent decades saw an increase in the spread of illnesses on dairy farms that can no longer be attributed to traditional disease patterns. Subclinical acidosis, subclinical ketose disorder, Mortellaro and other diseases did not manifest themselves 40 years ago. These disease patterns, the causes of which can be ascribed to more than one factor, can no longer be medically analysed and determined without ambiguity. They are therefore grouped together under the term „factor disease“. The disciplinary approach to both consulting and research involves the traditional methodology, which complicates the analysis of causal relationships within more complex systems such as the husbandry and feeding of dairy cows. An interdisciplinary approach is essential to improve dairy production in a sustainable and economically viable way. Such an innovative, interdisciplinary modus operandi must refer to the actors in the field (practitioners, consultants, researchers) as well as to the executed observations and analyses (soil, grassland, fodder conservation, feeding, and animal health).

The objectives of the project are the following:

- Analysis of grassland and field fodder production in terms of their yields, taking into account the fertilisation and the cutting time
- Improvement of the silage process with the objective to reduce pure protein degradation and identify alternatives to the silage process
- Analysis of the impact that grassland cultivation, field fodder production, and preservation methods have on the fodder intake and health of dairy cows in order to improve the economic viability of dairy farming as a whole



## Implementation

After mainly focussing on the preparation of the measures set out in the action plan in 2016, we were able to launch the practical implementation of the study on the farms in 2017, which continued as planned in 2018. This primarily involved the following investigations and data retrievals: monthly visits to the farms, including an evaluation of all the cows using BCS (body condition score) and LS (locomotion score), the identification of pre-emptive measures, and the ration patterns on the farms. In addition, the blood of all the cows that were in the 2-6-week timeslot of their lactation cycle was tested every two months.

At the beginning of the vegetation period in spring, press juice examinations were conducted over the course of the entire growing season to check the nitrate, ammonium and total sugar levels. The yield of the observation plots was recorded at each respective cutting time by weighing the yield of small representative plots and subsequently determining the dry matter content. These analyses were concluded in 2018.

The introduction of a uniform documentation and evaluation method of common animal diseases including hoof and claw diseases on holdings allowed satisfactory assessment and data collections by the different actors. IBLA thus managed to reach the main target – the complete and consistent data retrieval at the farms – yet again in 2018. The herd observation and determination of the effects on animal health of the silage produced in 2018 will continue until March 2019.

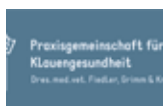
The evaluation of the gathered data will begin in March 2019. Working together with IBLA, Prof Dusel (TH Bingen) will be in charge of this process.

The project falls under the umbrella of EIP Agri (European Innovation Partnership „Agricultural Productivity and Sustainability,“), funded by the European Agricultural Fund for Rural Development (FEADER) within the framework of the Rhineland-Palatinate program EULLE („Environmental Measures, Rural Development, Agriculture, Nutrition“); the latter was co-funded by Rhineland-Palatinate and is represented by the „Ministry of Environment, Agriculture, Nutrition, Viticulture and Forestry Rhineland-Palatinate“.

**Project duration:** 2016 - 2019

**Project partners:**

**Funding:**





## **SUSTEATABLE**

### **Integrated analysis of dietary patterns and agricultural practices for sustainable food systems in Luxembourg**

The last 50-60 years saw a strong intensification in agricultural production; this led to increased food production and, concomitantly, increased food availability. Despite this positive impact on food availability, the intensification within the agricultural sector also brought about numerous negative environmental effects, e.g. impairment of water quality, soil erosion and deterioration of soil quality, as well as greenhouse gas emissions and loss of biodiversity. Thus, there is a conflict between modern food production and the protection of natural resources.

Farms are part of local and global food systems, and are significantly influenced by the latter and vice versa. In addition to agricultural production, the processing, transport, marketing and finally the consumption, i.e. eating our food, are all part of these systems. As a consequence, we are all part of the food system and therefore also responsible for its sustainable design. How, where and under what conditions was my food produced? The SustEATable project deals with these questions. Together with the project partners, IBLA looks more closely at and analyse the link between dietary patterns, agricultural production methods and the resulting environmental impact on the Luxembourgish food system.

The aim of the study is to examine what changes in agricultural practices and dietary patterns are needed to increase the sustainability of the Luxembourgish food system. To achieve this goal, the current level of sustainability of the Luxembourg agricultural sector is analysed holistically. The obtained results will be used for a modelling of the food system for the year 2050. In scenarios based on this, different agricultural methods and dietary patterns are brought together to determine necessary changes. From these findings, differentiated strategies for the development of a sustainable food system in Luxembourg will be extrapolated, in order to finally be able to make responsible recommendations for a sustainable food system.

The project kicked off officially on 4<sup>th</sup> September 2018 with a launch event in the presence of Minister of the Environment Carole Dieschbourg as well as Ms Joëlle Welfring and Ms Claudine Lorang, representatives of the "Oeuvre Nationale de Secours Grande-Duchesse Charlotte". OIKOPOLIS S.A. and BIOGROS S.A. were also represented by Sigmund Walbaum and Patrick Kolbusch, respectively. As part of this event, the project was presented to the press as well as the project advisory board. The latter, which is made up of actors from environmental, agricultural and health fields, was also given deeper insight into the methodology used.

Project duration: 2018 - 2021

Project partners:



UNIVERSITÉ DU  
LUXEMBOURG



Project funding:





## 2000 M<sup>2</sup> FOR OUR FOOD - PROJECT TO PROMOTE A SUSTAINABLE AGRICULTURAL AND EATING CULTURE

Feeding the growing world population gives cause for concern; already today, the demand for global agricultural land exceeds the actually available agricultural area. Yet the global arable land of 2,000 m<sup>2</sup> per person, predicted to decrease to 1,500 m<sup>2</sup> by 2050, would suffice to feed the world population, if used in a sustainable and fair manner. In addition, the area of permanent grassland needs to be taken into consideration. The prerequisite is a more efficient use of the food produced, a regionally adapted diet and the abandonment of the cultivation of energy crops.

2,000 m<sup>2</sup> of arable land and permanent pastures are available to every inhabitant of Luxembourg. Our food habits do not just have a great impact on our health, but also on soil, air and water. Yet, our requirement in terms of land is currently much higher, due to, for example, plants for energy production, imported soy as well as cotton, coffee, cocoa and tobacco.

At the “Haus von der Natur” (“House of Nature”) in Kockelscheuer, the correlations between eating habits, agricultural land and environmental protection are visualised and made accessible on a 2,000 m<sup>2</sup> field. Currently, agricultural production plays a minor role in the direct alimentation of the Luxembourg population. Therefore, the „2,000 m<sup>2</sup> for our food“ project is meant to illustrate the value of fruit, vegetable and crop cultivation for our food culture. In other words: apples and pears instead of mango and kiwi. Locally grown lentils, peas and soy instead of chickpeas originating from subtropical areas. Fruit and vegetables produced in the Greater Region would also allow for a seasonal and varied diet.

Animal husbandry is very important for the Luxembourgish grassland region and represents an essential link to agricultural culture, because the use of organic fertilisers from animal husbandry in particular promotes soil fertility. Thus, using chicken, pig and cow manure as fertiliser in the fields makes an important contribution to keeping nitrogen and other nutrients in the agricultural cycle and making mineral fertiliser redundant. In addition, the increased supply of plant-based fertilisers stemming from the food industry, in combination with green manure and an adapted crop rotation, also proves sufficient for the nutrient supply of the crops.

To mark the launch of the project, a field inspection took place on 3<sup>rd</sup> October 2018 in the presence of Minister of the Environment Carole Dieschbourg.

**Project partner:**



**Funding:**



LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG  
Ministère du Développement durable  
et des Infrastructures



## CO<sub>2</sub>MPOSITIV - LIGHTHOUSE PROJECT: OPTIMISATION OF ORGANIC MATERIAL CYCLES OF VITICULTURE IN LUXEMBOURG

Grape marc residue is transformed into a regional, high-quality fertiliser through optimisation of the composting process. Ways are shown that improve the organic material cycles in Luxembourg's viticulture, to in turn minimize the need for mineral nitrogen and phosphate fertilizers as well as pesticides. The use of the composting process in agriculture and the use of compost products are one way to increase sustainability and counteract climate change. Humus formation increases both soil stability and water retention capacity, thus reducing the soil's susceptibility to erosion.

Locally produced compost products help to promote humus formation, which in turn helps protecting the climate. It is a challenge for the organic farming sector to use resources as sustainably as possible. One of the main principles of organic farming is to, as far as possible, work within a closed operational cycle. This goal is not easy to achieve, especially in specialised sectors such as viticulture. The aim of this project is, in consequence, to promote wide support for organic fertilisation and composting. Demonstration windrows and plots will be set up to show the benefits of composting and how it can be implemented in practice. We research practical ways to implement a local compost production, which includes compost courses and workshops. These courses target farmers, winegrowers and private individuals. Organic farmers and winegrowers are addressed in the same way as conventional farmers and winegrowers. In addition, informational events and communication activities are offered that appeal to all social groups.

**Project duration:** 2018 - 2021

**Project partners:**



**Funding:**







## PILOT PROJECT „SCHLASSBIERG“

Since 2016, IBLA has been collaborating with the “Syndicat des Eaux du Sud” (SES) and the Chamber of Agriculture in the context of the „SchlassbiERG“ pilot project. Continuing in the vein of previous projects for improving the quality of drinking water (the proposed measures of which mainly focused on reducing fertilisation and the amounts of pesticides used), the current project is intended to go even further. The aim is to forego all mineral fertilisers and chemical-synthetic pesticides on the „SchlassbiERG“ plateau.

The project offers the unique opportunity to examine the impact that a complete forgoing of the use of mineral fertilisers and chemical-synthetic pesticides has on the water quality. The entire plateau is the private property of a single owner, all surfaces are cultivated by a single farmer and five springs are fed from this plateau alone. Hence, the effect that a change in the management of the fields has on the quality of the drinking water can be recorded and analysed on the basis of two reinforced springs (sources of drinking water) and three wild springs (natural sources); the activities on the plateau are reflected directly in the springs. Both the composition of the drinking water and the overall water quality will thus be considered in the evaluation of the „SchlassbiERG“ project.

The aim of the project is to forgo the use of all mineral fertilisers and chemical-synthetic pesticides in order to analyse the impact that these agricultural practices have on the drinking water quality of the springs. The following questions are addressed in this context:

- What implications does the described procedural change have for the quality of the drinking water springing from the two reinforced sources as well as for the quality of the water springing from the three wild sources, respectively?
- What changes are necessary in order to achieve stable yields despite not using pesticides and mineral fertilisers?
- What levels will crop shortfalls reach?

**Project duration:** 2016 - 2021

**Project partner:**

**Funding:**



## EXTENSION SERVICES

IBLA's extension services for organic agriculture welcome all farmers and vintners who are interested in organic farming and the implementation of related principles and methods on their farms/vineyards. Our consultants are there to advise and support all interested farmers, whether they are considering converting their holding into an organic farm, they are currently undergoing a restructuring or they are already a recognised organic producer. The advisors at IBLA's extension services will address whatever concrete problems or questions they might have regarding organic farming methods. The range of IBLA's extension services focalises on both agriculture and viticulture. On the one hand, the offered assistance includes on-site consulting for farms that require help in converting their business as well as for recognised organic holdings that want to optimise their operations. On the other hand, the consultancy service organises seminars, field inspections and excursions to share and update industry-specific information on particular areas of focus. These events further allow for an exchange between external experts and professional colleagues, thus contributing to the individual success of each farm.

IBLA's extension service involves the collaboration with other relevant institutions in Luxembourg as well as other extension services. In addition, they extensively exchange knowledge of technical and methodological developments with other organisations as well as with experts and professional practitioners from abroad.

The extension services are firmly embedded within IBLA's activities, facilitating its cooperation with the Research and Development Department. This way, new findings can directly inform the advice offered; on the other hand, issues that arise in everyday farming can be included in the research activities.



## **IBLA EXTENSION SERVICES - AGRICULTURE**

Rudolf Leifert, a certified farmer who has been active in the field of organic agriculture since 1979, and Gilles Altmann, MSc for Cultural Crop Sciences, provide advice on agriculture-related issues and questions. During their training and yearlong practical experience, our consultants gained in-depth knowledge of all aspects of organic agriculture.

According to their individual requirements, the agricultural holdings receive bespoke advice on all farming-related questions they might have, including crop cultivation, grassland, animal husbandry and feeding. The farms are extensively supported before and during their transitional period and informed about the chances and risks involved in adapting organic farming methods. The offered consultation includes guidance on crop rotation, fertilisation and tillage in forage and cash crop cultivation in order to improve the natural soil fertility and yield potential. The particular strengths of IBLA's extension services also include the overall consideration of breeding, guidance on feeding, ration calculations and grassland management with regards to animal health. The agriculture consultants use the results of IBLA's plant species and variety trials when making species- and variety-related recommendations. Based on the results of said species and variety trials, the consultants further offer specialised advice in the field of legume cultivation, namely regarding the species and variety selection as well as the appropriate cultivation technique.

Operational analyses and farm-specific support in the implementation of organic farming guidelines complete the offer of IBLA's extension services - agriculture.



## **IBLA EXTENSION SERVICES - VITICULTURE**

Sonja Kanthak, a certified vintner, communications officer and holder of a Bachelor's Degree in Organic Agriculture and Marketing, advises farmers on all viticulture-related questions, ranging from organic vineyard cultivation and greening to plant protection and organic winemaking. The wine-growing estates can count on receiving target-specific support before, during and after their transition. Moreover, the consulting services always take into account each holding's particular features as well as the weather conditions on site. Regular vineyard inspections and newsletters sent throughout the growing season provide the vintners with important, up-to-date information. In addition, vintners benefit from the close exchange between the Research Department and the extension services at IBLA.



## CONSULTING MODULES 2018

| N°    | Module  | Target Audience  | Max. funding / rate of aid | State subsidy | Individual participation fee |
|-------|---|--|----------------------------|---------------|------------------------------|
| 15.1  | Organic agriculture – Pre-transitional initial consultation | for conventional holdings  | 800 € / 100%               | 800 €         | 0 €                          |
| 15.2  | Organic agriculture – Pre-transition, intensive             | for conventional holdings  | 1.500 € / 100%             | 1.500 €       | 0 €                          |
| 16    | Organic agriculture – Transition                            | for holdings under conversion  | 1.500 € / 100%             | 1.500 €       | 0 €                          |
| 17a   | Organic agriculture   | for certified organic holdings   | 1.875 € / 80%              | 1.500 €       | 375 €                        |
| 17b   | Methods used in organic agriculture                         | for conventional holdings  | 600 € / 80%                | 480 €         | 120 €                        |
| 8     | Legume cultivation  | for all holdings   | 600 € / 80%                | 480 €         | 120 €                        |
| 9     | Group consultation on crop cultivation                      | for all holdings   | 520 € / 50%                | 260 €         | 260 €                        |
| 23.1  | Organic viticulture – Pre-transitional initial consultation | for conventional holdings  | 800 € / 100%               | 800 €         | 0 €                          |
| 23.2  | Organic viticulture – Pre-transition, intensive             | for conventional holdings  | 1.500 € / 100%             | 1.500 €       | 0 €                          |
| 24    | Organic viticulture – Transition                            | for holdings under conversion  | 1.500 € / 100%             | 1.500 €       | 0 €                          |
| 25a.1 | Methods used in organic viticulture – soil fertility        | for conventional, partially converted and certified organic holdings (<0,1 ha) | 600 € / 80%                | 480 €         | 120 €                        |
| 25b.1 | Methods used in organic viticulture – plant health          | for conventional, partially converted and certified organic holdings (<0,1 ha) | 600 € / 80%                | 480 €         | 120 €                        |
| 25a.2 | Organic viticulture - soil fertility                        | for certified organic holdings (>0,1 ha)                                       | 1.875 € / 80%              | 1.500 €       | 375 €                        |
| 25b.2 | Organic viticulture - plant health                          | for certified organic holdings (>0,1 ha)                                       | 1.875 € / 80%              | 1.500 €       | 375 €                        |

### Private participation fees

Each year, Bio-Lëtzebuerg pays the participation fees for up to three agricultural/viticultural modules booked by its members. Our extension services thus remain free of charge for farms/vineyards associated with Bio-Lëtzebuerg. LAKU has also implemented a programme of measures allowing its members to apply for the reimbursement of their fees for the 17a and 17b modules. Modules 8 and 9 are also eligible under LAKU's programme of measures depending on the acreage situated within the catchment area of the „Haute Sûre“ reservoir. The condition for LAKU participation in any measures is the concurrent attendance of the modules „Fertilisation Planning“ and „Water Conservation Advice“. Farmers operating in the drinking water catchment area of Luxembourg City (Ville de Luxembourg, VdL) and the “Syndicat des Eaux du Sud” (SES) can be reimbursed for their participation fees by the water providers for modules 17a, 17b, 8 and 9, respectively.



## EXTENSION SERVICES - AGRICULTURE

### Pre-transitional consulting still in high demand

As was the case in 2017, a lot of holdings showed an interest in transitioning to organic agriculture in 2018 and consequently signed up to module 15.1 "Organic Agriculture - Pre-transitional initial consultation". The objective of the module is to inform interested farmers about the basics of organic agriculture. The particularities of each and every holding are considered, which permits the identification and discussion of the possibilities, requirements as well as limitations of their respective conversion to organic agriculture. The subsequent module 15.2 involves a more in-depth transition consultation. Apart from inspecting the existing stables and evaluating their suitability in terms of organic husbandry, the consultants analyse soil fertility and structure of the fields at hand and discuss potentially required actions. The operational evaluation includes the adaptation of the existing crop rotation and land management to the tenets of organic agriculture. It further takes into account the husbandry and feed requirements. This allows for the determination of the costs and revenues resulting from the transition to organic agriculture as well as for comparisons with the current management style.

The intensive assistance of holdings in transition is also crucial given that converting a farm constitutes an endurance test for the people involved.

### Soil fertility for operational success

Close collaboration with the farmers was again part of the „Group Consultation on Crop Cultivation“ module in 2018. Farmers from all across the country participated in various group consultation. The joint field inspections prove that the organic farmers with many years of experience are fully in control of their arable land and are very keen on maintaining and improving natural soil fertility and soil health continuously.

Group consultation gives interested farmers the opportunity to talk to farmers who have already converted or are in the middle of converting their business and to benefit from their experiences in order to prepare and manage their fields in an optimal fashion right from the beginning. In particular, the subject of tillage always leads to lively discussions that prove useful to all involved parties.

The close cooperation with the farmers shows again and again that there are still many questions left in the field of nutrient supply to the soil, a subject with huge potential for



research and action. An optimal supply to soils with all nutrients is essential for soil structure and the yield potential of the soil, especially in organic farming. Nutrient deficiencies or unbalanced nutrient ratios also have an impact on animal health. The sampling of the arable land and the targeted interpretation of the analytical data with regard to availability of magnesium, calcium, phosphorus etc. will be pursued in 2019. In order to be able to generate optimal yields from arable land and grassland plots, adapted fertilisation strategies will have to be developed in the future. These include among others feed-dung cooperation between organic farms. In addition, the feasibility of using compost purchased or produced on the own farm for soil improvement and nutrient supply will be further tested and improved. Moreover, fertilisation with raw phosphates, Patentkali and kainite continue to play a significant role.

Furthermore, tillage also comes into play here since it promotes soil development and the concomitant occurrence of nutrients through soil-dwelling organisms. An agricultural soil with an optimal soil quality can store nutrients in a way that makes them available to plants; it can then supply the latter with said nutrients as needed. The nutrients are thus always available to the plants in the required quantity. An optimal soil structure allows for a good pore distribution. This way, the soil organisms have enough oxygen at their disposal to transform organic matter and store available nutrients. The ground absorbs rain more efficiently and the soil stores more moisture, which can be made available during dry spells. Additionally, good flow absorption capacities prevent waterlogging, which inhibits optimal warming of the soil and the provision of nutrients for the plants. The crop rotation should be modified and adapted on a regular basis with regards to soil structure and nutrient supply.

### **Animal husbandry**

Another focal point of our extension services is the calculation of feed rations to ensure effective feeding of ruminants. Milk production is one of the most complex branches of agriculture. As ruminants, cows are able to form protein from NPN-nitrogen and extract energy from cellulose degradation, all thanks to their rumen. This enables ruminants to use grassland and grass-clover ley, which are indigestible for monogastric animals, to produce milk and meat – high-quality food for human consumption. This also means that ruminants do not compete with humans over food as long as they are fed staple foods.

Healthy, closed operating circuits are the basis for a sustainable ecological land management.



In agriculture, this requires perennial clover grass, alfalfa grass and alfalfa parts in crop rotation. Likewise, pasture farming is necessary, also in terms of climate and landscape protection. The use of these areas can only be guaranteed by ruminants.

Sustainable organic agriculture would not be feasible without ruminants. In conventional agriculture, the performance of cows has more than doubled over the last decades due to progress made in breeding methods, changes in husbandry conditions and especially the significant transformation of the feed, evolving from the cellulose-heavy staple diet to starchy concentrated feed. However, this development has come at a cost, namely the economic lifespan and health of the animals.

The particular challenge of organic dairy farming lies in re-focusing both the feeding and the future evolution of breeding on the environmental imperatives. This means improving the return of basic fodder made from grass-clover leys and permanent grassland.

#### **Legume cultivation for soil fertility and feed autarky**

The cultivation of fodder and grain legumes is of crucial importance when it comes to the preservation and increase of soil fertility on both organic and conventionally farms. The cultivation of perennial field feed (clover- or alfalfa-grass leys) constitutes the nutrient base for crop rotation in organic agriculture and provides for soil restoration, favourable soil conditions and the suppression of unwelcome weeds. Due to the cultivation of perennial field fodder, non-organic farms are able to reduce the use of mineral fertilisers. Grain legumes are also very suitable for feeding in-house; in addition, they loosen the crop rotation and bind freely available atmospheric nitrogen. Cultivating a mixture of grain legumes cereals has garnered increased attention. The joint cultivation makes the plant population overall less sensitive to environmental impacts. Complimentary plant types compensate for yield losses occurred by the other batch partners, which contributes to overall increased yield reliability and stability. In addition, the mixed crop allows for a more efficient exploitation of growth resources. Further research is also being conducted on the cultivation of soybeans in Luxembourg. In this area too, farmers can learn from IBLA's experience of growing the crop and jointly advance the cultivation success.



#### **Increased valorisation of grassland**

Conventional holdings made use of IBLA's consultancy service in 2018. Many farmers want to rely more on their own grassland when it comes to providing for their animals, and to increase the proportion of clover through adapted fertilisation and care or reseeded. Furthermore, many farmers want to reevaluate their existing feed rations to decrease their dependence on expensive concentrated feed and increase the fodder autarky of their holding.

#### **Methods of organic farming for drinking water protection**

The pollution of our drinking water resources by - among other things - diffuse entries of nutrient and pesticide residues from agriculture continue to be of utmost importance. All actors in the field of agriculture are eager to make agricultural processes more environmentally friendly. The drinking water operators in particular are increasingly confronted with this problem and must invest in expensive processing and filtration systems to guarantee the quality of the drinking water and to keep it free of harmful substances.

Once again, the waterworks of the Ville de Luxembourg (VdL) signed a performance contract with IBLA in 2018 to introduce farmers in the affected drinking water catchments to the methods of organic agriculture. By forgoing chemical-synthetic pesticides and mineral nitrogen fertilisers, organic agriculture offers farming options that are compatible with drinking water protection. The methods of organic farming (extended crop rotations, mechanical weed control, animal husbandry adapted to the individual holding, etc.) can also be implemented on conventional farms without requiring a 100% switch to organic agriculture. By implementing these methods, conventional holdings can better contribute to protecting the drinking water supply. In 2018, VdL has reimbursed the fees for the advisory modules 17a „Organic Agriculture“, 17b „Methods of Organic Farming“, 8 „Legume cultivation“ and 9 „Group Consultation on Crop Cultivation“ booked by farmers located in catchment areas. IBLA collaborated with the Chamber of Agriculture in a joint demonstration trial to bring plant protection in the context of maize cultivation in line with drinking water protection; IBLA deployed a ridging hiller for a purely mechanical weed control.

In addition, a three-year cooperation between IBLA and “Syndicat des Eaux du Sud” (SES) was launched in 2017 to further introduce farmers operating in their catchment areas to the methods of organic agriculture. SES collaborated on the Schlassberg project and also refunded farmers' participatory fees for the advisory modules 17a, 17b, 8 and 9. In October 2018, a seminar entitled „Soil health and soil fertility“ took place, containing a theoretical and a practical segment explaining the importance of a healthy soil for growing healthy plants and clean drinking water to farmers.





The “Landwirtschaftliche Kooperatioun Uerwersauer” (“Agricultural Cooperation of Esch-sur-Sure”, LAKU) again refunded farmers’ participatory fees for the advisory modules 17a and 17b. In addition, IBLA is involved in their „Water protection“ and „Fertilisation planning“ working groups as well as being a member of the Monitoring Committee. By cooperating with these water providers, IBLA wants to continue to actively contribute to protecting drinking water in cooperation with farmers.

#### **Reciprocity of research and consultancy**

When it comes to consulting conventional and organic holdings, farmers’ practical experiences remain of significant importance; they can and must be passed on to newly certified as well as conventional holdings through an ongoing exchange of information and knowledge. The close connection between research and extension services at IBLA allows for the identification of knowledge gaps and areas of agricultural practice in need of research as well as the direct sharing of information with the farmers. This way, the above-mentioned problems and shortfalls can be addressed in a focused and efficient manner.



## **EXTENSION SERVICES - VITICULTURE**

### **2018 – Quick recap: sun-kissed grapes of the highest quality**

The Luxembourg organic vintners are delighted about the high-quality yields. An accelerated growing season was followed by an early harvest.

At the beginning of the summer, precipitation was rare and in the form of heavy rain. The average precipitation volumes for a whole month came pouring down in a matter of hours - not an easy situation for the vintners. Especially in the particularly sensitive phase - the blooming period -, it was impossible to use tractors in the vineyards. The result were infections with downy mildew. Later, the occasional summer thunderstorms were accompanied by hail, which damaged the grapes in the Sûre region. The summer was characterised by drought and dry heat. Heat damage and burns occurred mainly in young plants. Yet, the vintners can be very satisfied with the result of the harvest. As a permanent crop, vines are more likely to cope with prolonged drought than annual crops. The persistent heat led to the formation of small grapes with firm skin. The early onset of maturity resulted in high sugar levels. Those who managed their harvest well can be very satisfied with the vintage.

### **Organic viticulture extension services offers attractive advice and further education**

The winter green mixture BioLux \* WINTER \* was revised again; it attracts growing interest and is reaching higher levels of proliferation.

Using the winter green mixture allowed for the application of organic farming techniques to viticulture. Besides the main components winter rye and winter peas, the green mixture contains a nurse crop of herbs and legumes, which - given optimal processing and development - takes root after cutting of rye and pea. The main components of the mixture were procured in Luxembourg. In cooperation with the local purchasing cooperative "Protvigne", an attractive offer was submitted to both organic and conventional farmers. In the established fashion, BioLux \* WINTER \* was planted on every second row in a 65-ha area. 15 holdings were supplied.

The green mixture can contribute to biodiversity in the vineyards. The workshop „What’s that flying over there?“ also dealt with this topic. The joint event with the “Institut Viti-Vinicole” (IVV) took place at Ahner Palmberg. With its steep shelly limestone cliffs, its 300-year-old boxwood stock and the diverse structural elements, Palmberg is a hotspot of biodiversity.



It thus provided the ideal setting for the seminar on butterflies held by Lea Jäger. The conditions during the excursion were perfect, allowing the participants to observe and identify many species under the expert guidance of the presenter.

Crop protection advice was available during the entire growing season via on-site consultation appointments, telephone counselling and the BioLux \* ticker published on a regular basis during the growing season. The inspection rounds were well attended during the season.

At the beginning of August, a short excursion to Valais was organised for interested vintners and experts. The demonstration of the Agrofly, a phytosanitary drone already approved for use in Switzerland, took centre stage. Attendees could inspect vineyards that had already been treated with organic pesticides administered by drone during the past vegetation period. The technology is promising and offers the prospect of reducing the burden placed on the soil by numerous crossings during the plant protection season. Hopefully, it will be authorised for Luxembourgish viticulture in the near future. After the demonstration, participants exchanged experiences on fungus-resistant grape varieties with the Valais vintners and familiarised themselves with the unique indigenous grape varieties of the region.

In early December, an oenological seminar including tastings of young wine took place. The event was organised by the IVV in cooperation with IBLA. Speaker Martin Darting, a self-confessed organic wine activist and sensor-technology professional, offered insights and expertise while debunking terroir clichés.

## › IMPRINT

### **Publisher**

Institut fir Biologesch Landwirtschaft  
an Agrarkultur Luxemburg a.s.b.l.  
13, rue Gabriel Lippmann  
L-5365 Munsbach

**Tel /** +352 26 15 13 88

**E-Mail /** sekretariat@ibla.lu | info@ibla.lu

**www.ibla.lu**

### **Design**

marcwilmesdesign.lu

### **Layout**

Bonnie Zimmer, Sabine Keßler

*February 2019*