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## 1. Executive summary

The indication “mastitis” is still one of the most important reasons for the antimicrobial input in European organic dairy herds. Animal health plans exist in several European countries. They are mainly based on checklists ending up in a written plan. However, such health plans don't necessary lead to an improvement in the animal health situation on farms.

Based on the knowledge and experience of former projects, in particular the Core Organic ANIPLAN-Project, and based on the principles of health planning processes, a team of farming advisors as well as veterinary practitioners and on-farm researchers in preventive veterinary medicine developed an improved RELACS-Animal Health and Welfare protocol. The protocol will be useful for less experienced advisors in the organic dairy sector, as well.

Data about health and welfare of dairy cows play different but highly important roles within the advisory as well as the scientific part of the RELACS-AHWP Protocol. Data are needed for (self-)reflection of farmers, benchmarking between farms, for further advisory reasons, but also for the scientific (a) analysis of the development within each farm and (b) comparison between farms participating in the Farmer Field School (FFS) approach and non-participating control farms. Data collection has to be carried out in a highly precise manner and following the same protocol on each farm and at each point in time. The Dataset comprises five parts: (I) Overall data of farm structure, (II) Milk recording data, fertility data, (III) Health and Treatment data, (IV) Health and Welfare data and (V) Farmer Field School outcome data. The complete dataset will be collected three times during the project – (a) immediately prior to the first FFS, (b) one year after the first and (c) one year after the second FFS. The activities planned in WP5 resulting in DEL 5.2 fall under the Ethics Review requirements related to «Collection of data from humans» for the project and «Protection of personal data». The appropriate procedures to comply with the ethical requirements are described.

The advisory action within the RELACS AHWP protocol will be FFS, a specific form of facilitated farmer inter-collegial advisory. The ideal group size consist of 5 to 7 farmers including one host, 4-6 advising guest farmers and a facilitator per meeting. The facilitator will not give any advice, but is responsible of the preparation and organization of the meeting, the moderation during the meeting as well as the writing up and distribution of the minutes to all participants after the meeting. A meeting comprises a farm walk (including a demonstration of at least one “success case”) and a structured indoor discussion tackling two problems presented by the host farmer and subsequent inputs from all participants. Each problem topic is closed by a conclusive statement by the host farmer. Two farmer field schools per farm will be held during the project at a one-year interval.



## 2. Handbook: RELACS-AHWP protocol

### 2.1 Introduction

The indication “mastitis” is still one of the most important reasons for the antimicrobial input in European organic dairy herds (Hovi et al., 2003). Preventive herd health concepts are well known, however, their transformation into practice seems to fail oftentimes (Bell et al., 2009; Tschopp et al., 2015).

Based on the knowledge and experience of former projects (Bennedsgaard et al., 2010; Ivemeyer et al., 2008; Vaarst et al., 2011; Ivemeyer et al., 2012), a team of farming advisors as well as veterinary practitioners and on-farm researchers in preventive veterinary medicine developed an improved RELACS-Animal Health and Welfare protocol (RAP). The protocol will be useful for less experienced advisors in the organic dairy sector, as well. Even though RAP will focus on mastitis through a global health approach, a reduction of antimicrobial use in udder treatments is expected only when the method is applied. Nevertheless, techniques will be transferable to other diseases (e.g., calf diarrhoea).

### 2.2 Background Information

Animal health plans exist in several European countries. They are mainly based on more or less differentiated checklists and a one-step face-to-face advice in a “one farmer: one advisor” constellation, ending up in a written plan (Bell et al., 2009). However, such written plans are easily put away in a drawer and forgotten about. Indeed, such health plans don't always lead to an improvement in the animal health situation on farms.

A team of experienced on-farm researchers and advisors developed within the Core Organic project ANIPLAN a list of principles (Vaarst et al., 2011) on how to move from a static health plan to a dynamic health planning process.

The principles of a health planning process:

1. Continuous development and improvement
  - a) Identify current status and risks (using animal and resource based parameters)
  - b) Evaluation and target setting
  - c) Promotive, preventative and responsive strategies and action
  - d) Review
2. Farm specific approach
3. Farmer ownership (setting targets, accounting for aspirations, setting planning agendas)
4. Involvement of external person(s) (to provide unbiased advice/support)
5. External knowledge

6. Execution within the framework of organic principles (systems approach)
7. Written documentation
8. Acknowledgement of existing positive aspects of health and welfare

Animal health and welfare planning based on these principles has been conducted on 128 European organic dairy farms for one year in the ANIPLAN project. During this year, unexpected to most of the involved researchers and advisors, the antimicrobial udder treatments decreased significantly while udder health improved also significantly (Ivemeyer et al., 2012). Such clear results could normally be registered earliest after two years (Ivemeyer et al., 2008).

One advisory approach within the ANIPLAN project were the Farmer field schools (FFS, see point 4) based on the “Danish Stable Schools”, an inter-collegial experience-based advising (Vaarst et al., 2007) which was already known to successfully reduce the antimicrobial input in organic dairy herds (Bennedgaard et al., 2010).

### 2.3 Data

Data about health and welfare of dairy cows play different but highly important roles within the advisory as well as the scientific part of the RELACS-AHWP Protocol (RAP):

- (a) Self-reflection of host farmer to formulate the “right questions” to his colleagues for the preparation of the FFS
- (b) Information for guest farmers to reflect on the situation on the host farm as basis for their inputs during FFS
- (c) Reflection of changes in the data by host and guest farmers one year after the first FFS to prepare the second FFS
- (d) Self-reflection of host farmer one year after the second FFS
- (e) Benchmarking between farms
- (f) Enabling a scientific (a) analysis of the development within each farm and (b) comparison between farms participating the FFS approach and non-participating control farms.

Data can only fulfil these different and specific roles if they are recorded with high precision, by all involved persons following the exact same procedure on each farm and each point in time. For this reason, each advisor testing RAP in a group of farmers will be trained in a 3-day workshop in Frick, on one hand to learn exactly what kind of data to sample and how to analyze them and present the results to the FFS, and on the other hand to learn how to organize and perform the FFS itself (please see chapter 4)

For the scientific analysis, the definition of “point zero” is important: it is the date of the first FFS within RELACS for each individual farm. Data collection of each individual farm should be done right before the respective FFS. This means that some FFSs take place before the completion of data collection on all the project’s farms.



### 2.3.1 Four Data Dimensions

Our data will have 4 Dimensions:

1. Time horizon (punctual / year / month)
2. Level (farm / animal / udder quarter)
3. Type (numeric / binary / categorical)
4. Unit (kg%/ etc.)

### 2.3.2 Three Data Sets

We will have 3 sets of data at the end:

- (a) Data for scientific analysis
- (b) Data for advisory actions (FFS)
- (c) Data for Socio-economic and environmental impact assessment (Task 5.5)

In order to enable the use of data for both scientific analysis and advisory actions (FFS), it is necessary to sample all data on the smallest meaningful time horizon (most appropriate “month”, or, sometimes, “year”) and level (most appropriate “farm” or, sometimes, “animal”).

#### 2.3.2.1 ***Overall data of farm structure (questionnaire; farm X year)***

- Country
- Farm (including altitude)
- Date of conducting the questionnaire
- Herd size: (average number of lactating and dry dairy cows for the last 12 months)
- Number of persons involved in direct work with dairy cows
- Number of other livestock in the farm (other cattle including youngstock, small ruminants etc.)
- Total farm land (ha) and part (approximately) for dairy cows feed differentiated to:
  - Permanent grassland
  - Rotation grassland
  - Rotation maize
  - Rotation crops



- Feeding (separated in summer and winter feeding including duration of these periods)
  - Pasture (% of dry matter)
  - Cut grass (% of dry matter)
  - Hay (% of dry matter)
  - Maize silage (% of dry matter)
  - Grass silage (% of dry matter)
  - Protein concentrates (% of dry matter)
  - Energy concentrates (% of dry matter)
  - Others (% of dry matter)
- Culling of the last 12 months (total culling and in particular culling for udder health reasons)
- Stable structure: loose (cubicles, deep litter; mixed) / tethered
- Bedding material
- Milking technology
  - Type of parlor / robot (including total milking places and milking clusters)
  - Degree of automatization
- Milking management
  - Number of persons regularly milking on farm
  - Number of persons regularly milking per milking time
  - Fore milking process
  - Teat cleaning process
  - Delay between first handling and start of milking an individual cow
  - Post milking teat treatment
- Number of treatments (farmers self-declaration; udder treatments during lactation, dry off treatments, endometritis, other) during the last 12 months (approximately) distributed to: (a) antimicrobial, (b) non-antimicrobial and (c) alternative (like homeopathy, medicinal plants, essential oils, minerals etc.)

### **2.3.2.2      *Milk recording data, fertility data (electronic data; cow (within farm) X month)***

- Country
- Farm
- Date of milk recording
- Cow-identification (official ear tag number)
- Number of lactation





- Calving date
- Milk yield (kg)
- Protein (%)
- Fat (%)
- Urea
- Somatic cell count (SSC, number in 1000/ml; mixed milk of 4 quarters)

### **2.3.2.3 Health and Treatment data (dairy herd including lactating and dry cows X month)**

For these data, access to treatment journals - in an electronical or written format - is inevitably needed (including dry cows treatments). A graphical overview is one of the deliverables to the farmers (i.e. control farmer as well as host and guest farmers) prior to the FFS.

Definition of “one treatment”: A treatment is the time period in which one cow is continuously medicated for the same disease.

- A new treatment in the same animal starts with the treatment of a different disease or with a treatment 7 or more days after the end of a former treatment of the same disease.
- If a treatment is spread over two months, it is counted only in the starting month
- Antimicrobial treatments are all kinds of antibiotics.
- Non-antimicrobial treatments are e.g. non-steroidal anti-inflammatory drugs (NSAID) or hormones like prostaglandin (fertility)
- “Alternative treatments” are for example: essential oils, phytotherapy, homeopathy
- In case of using in parallel different types of treatments for the same disease case, only the hardest treatment case type counts (i.e. antimicrobial > non-antimicrobial > alternative)

#### Treatment data

- Country
- Farm
- Year X month
- Number of antimicrobial mastitis treatments
- Number of non-antimicrobial mastitis treatments
- Number of alternative mastitis treatments
- Number of antimicrobial endometritis treatments
- Number of non-antimicrobial endometritis treatments



- Number of alternative endometritis treatments
- Number of non-antimicrobial treatments of fertility problems (hormones)
- Number of alternative fertility treatments
- Number of other/non-specifiable antimicrobial treatment
- Number of other/non-specifiable non-antimicrobial treatment
- Number of other/non-specifiable alternative treatment

#### **2.3.2.4 *Health and Welfare data (farm (dairy herd including only lactating cows) X year)***

The recording of the animal based health and welfare data follows the AssureWel protocol. They should be collected on each individual farm always at the same time of the year, about 2-4 weeks prior to the FFS on the particular farm. The pdf of the score sheet (Appendix 5.3) is one of the deliverables to the farmers (control farmer, as well as host and guest farmers) prior to the FFS. Observers have to be trained based on the material available on the AssureWel Training site (<http://assurewel.org/training.html>) followed by a successfully solved test.

- Sample size depending on the number of cows/herd:
  - In herds up to 20 cows: all cows
  - In herds of 20-100 cows: 20 cows
  - In herds larger than 100 cows: 20%, up to 50 cows
- For each of the tested cows, the parameters below are recorded individually
  - Mobility
  - Body condition score (BCS)
  - Cleanliness
  - Hairless patches (head and neck; body; front leg; rear leg)
  - Lesions (head and neck; body; front leg; rear leg)
  - Swellings (head and neck; body; front leg; rear leg)
- Overall view of the herd
  - Total number of cows needing further care
  - Total number of cows with broken tails

#### **2.3.2.5 *Farmer Field School outcome (farm X year; please see 2.4 for further details)***

- Host farmers' question 1 (clearly formulated)



- Guest farmers' ideas on question 1 (key points only)
- Host farmers' conclusion on question 1 (clearly formulated)
- Host farmers' question 2 (clearly formulated)
- Guest farmers' ideas on question 2 (key points only)
- Host farmers' conclusion on question 2 (clearly formulated)

## 2.4 Advising Action – Farmer Field Schools (FFS)

The ideal group size for a FFS is 5 to 7 farmers (1 – 2 people/farm). The group includes one host and 4-6 advising guest farmers. In smaller groups, there might not be enough different views on a specific question, and, based on that, not enough ideas for a solution. In larger groups, some ideas will get redundant and it will be more difficult to keep a tight timetable.

The concept of the RELACS-AHWP-Protocol comprises 1 meeting per farm and year, and therefore 2 FFS/farm throughout the project (2019 and 2020): FFS I PM (project month) 8-13 and FFS II PM 20-25. Further FFS will be possible on farmers' demand.

A first meeting with all the farmers of a region (even with several FFS per region) is recommended before starting the FFS to set some overall rules of the process. During the meeting, there should not be any advice from the facilitator. A strict confidence and kindness is necessary within the group.

It makes sense to set all the farmer field schools dates at once. The first host farmer should be someone confident, who is used to express himself in circles.

### 2.4.1 The specific role of the facilitator

#### 2.4.1.1 *Preparing and organizing the meeting*

- Finding a date
- Providing data to the host farmer for reflecting on the situation and identifying topics for the FFS
- Contacting the host farmer 2 weeks before the meeting to discuss the agenda and his questions.  
*“Identify the topics for the agenda (one success case and two problem areas, which often need to be specified and described in detail) for the forthcoming meeting with the host farmer and ...*
- *... mail it to the group members together with data from the farm”* (Vaarst et al., 2007)
- Presenting the farm's problems that will be addressed during the meeting and provide host farm data - representative for the last 12 months for the specific host farm - to all guest farmers. (be



careful - they are based on the formerly sampled data but presented in a more general and summarized way):

- Overall farm data (3.3.1; farm X year)
- Milk recording and fertility data (3.3.2 farm (dairy herd) X month)
- Treatments of the last year (3.3.3 (farm (dairy herd including lactating and dry cows) X year)
- Welfare data (3.3.4 (farm (dairy herd including lactating cows) X year)

#### **2.4.1.2** *During the meeting*

- Keeping a nice and friendly atmosphere
- Directing and facilitating the discussion and keep the agenda (avoid reproaches)
- Asking only a question to encourage the inputs of the guest farmers (e.g. guest farmers “I was very successful with a teat dip” than ask “can you precise what kind of teat dip?”) or to intervene if something seems to be really wrong
- Writing brief notes from inputs given by the advising guest farmers and from the conclusions of the host farmer

#### **2.4.1.3** *After the meeting*

- Writing brief minutes, and summing up the host farmer’s conclusions and decisions

### **2.4.2 The meeting procedure**

The meeting shouldn’t last more than 3 hours, so that it is possible to participate in a meeting by investing “half a day” including travelling.

- 0.5-1 hour outdoor (introduction of the farm)
  - Demonstration of the “success case” good aspects of the farmer
- 2 -2.5 hours indoor
  - 10 minutes coffee break
  - Presentation and discussion of Problem area 1
  - Presentation and discussion of Problem area 2
  - Conclusive discussion and end



#### **2.4.2.1**      ***Procedure of presentation and discussion of problem area***

- The host farmer presents the problem area from his personal point of view and asks his specific question to the advising guest farmers
- The guest farmers may ask comprehension questions and the host farmer will answer them
- After this, the host farmer is not allowed to react while other farmers provide their input
- Each guest farmer has to give a recommendation to the question of the host farmer. It is the task of the facilitator to ensure that all guest farmers are actively participating and giving their input
- The facilitator writes down briefly the inputs of all the farmers
- The host farmer sums up what he thinks after having heard the opinions, rejects and reflects on suggestions and commits himself to certain improvements (at least the latter have to be written in a protocol). The facilitator does not push the host farmer into precise lines. It will be as precise as the host farmer wants it to be



### **3. Dissemination activities related to the Handbook: RELACS AHWP Protocol**

The first dissemination action is the project internal dissemination to all participating advisors, and was held in November 2018. This meeting of all involved advisors took place from the 13th to the 15th of November at FiBL in Frick. Besides the training in the methods of data collection and FFS, all participating advisors were involved in the refinement of the RELACS AHWP Protocol. Based on this, the second version of this handbook was prepared in December 2018.

Veterinarians from FEVEC (France) who are not directly participating in this task also attended the RELACS AHWP Protocol workshop in Frick to be trained to use it.

Furthermore, two practice abstracts are developed on this topic, one with regard to the dataset of AHWP and another with regard to [the advisory action of Farmer field schools](#).



## 4. Compliance with Ethics requirements

The activities planned in WP5 resulting in DEL 5.2 fall under the Ethics Review requirements related to «Collection of data from humans» for the project and «Protection of personal data».

DEL 10.1 provides the instructions to comply with the Ethics Review requirements concerning the first requirement « Collection of data from humans » for the project. It describes those activities that involve people external to the consortium and who will be contributing to RELACS' research through questionnaires and/surveys, and open interviews of focus groups in line with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). For each activity, it provides:

- Details on the procedures and criteria that will be used to identify/recruit research participants;
- Detailed information on the informed consent procedures that will be implemented for the participation of humans;
- Template of the informed consent forms and information sheet.

DEL 10.2 provides the instructions to comply with the Ethics Review requirements concerning the second requirement «Protection of personal data» for the project. It describes those activities that collate, store, and analyze data, and provides:

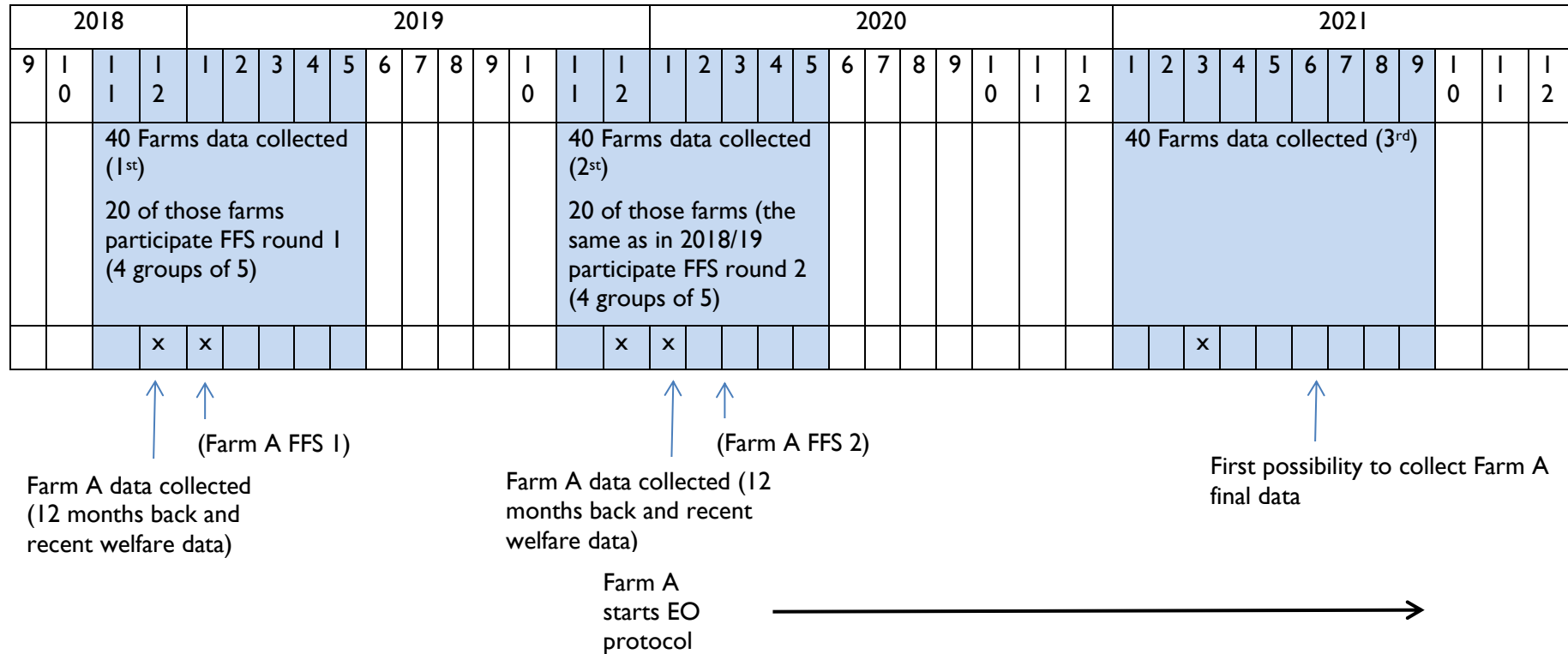
- Actions to be undertaken for data collection, storage, protection, retention and destruction and confirmation;
- A statement from the designated Data Protection Officer to confirm that all personal data collection and processing will be carried out according to EU and national legislation (including Regulation EU 2016/697) and will comply with national and EU legislation.
- A statement to confirm that partners from non-EU countries or international organizations comply with national and EU legislation.

The procedures devised in DELs 10.1 and 10.2 form an integral part of the activities that are undertaken in WP5 (in addition to Annexes).



## 5. Appendices

### 5.1 RELACS AHWP Schedule for Farmers







<p><b>40 Farms</b></p> <ul style="list-style-type: none"> <li>• Organic</li> <li>• Milk Recording Data, carried out at least every 35/37 days (min 10x per year) on an individual cow basis (including for at least the previous 12 month) to include             <ul style="list-style-type: none"> <li>○ Somatic Cell Count (SCC)</li> <li>○ Quantity (litres/kg)</li> <li>○ Protein %</li> <li>○ Fat %</li> <li>○ Urea %</li> </ul> </li> <li>• Treatment record data for individual cows (lactating and dry cows)</li> <li>• Willing to participate in trial of essential oils protocol (c. 2 pairs of mastitis cases per farm)</li> </ul>	<p>20 Farms take part in Farmer Field Schools testing AHWP protocol and Essential Oils protocol and have visits collecting data 3 times.</p> <p>Farmer Field Schools:</p> <ul style="list-style-type: none"> <li>- 4 groups 5 farmers</li> <li>- Share milk Recording and Treatment records with group for host farm</li> <li>- Move round each farm in the group with each host farmer demonstrating a success case when on a farm walk, then puts forward two problem areas around udder health to gather group opinion and solutions</li> </ul> <hr/> <p>(FFS Control Group) 20 Farms take part in Essential Oils protocol trial and have data collected 3 times</p>
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<p>Data collected for 40 Farms during visits (x3)</p> <ul style="list-style-type: none"> <li>- Overall farm data (e.g., herd size, farm area, persons employed, housing type, milking system, milking management)</li> <li>- Culling rate, include % culled for udder health reasons</li> <li>- Milk recording data, monthly basis, per cow basis             <ul style="list-style-type: none"> <li>○ Number of lactations</li> <li>○ Calving date</li> <li>○ Date of milk recording</li> <li>○ Milk yield</li> <li>○ Fat %</li> <li>○ Protein%</li> <li>○ Urea%</li> <li>○ SCC</li> </ul> </li> <li>- Treatment data (treatments/month – milking and dry cows)</li> <li>- Welfare outcome data</li> </ul>
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## 5.2 RELACS AHWP Yearly Questionnaire

### 5.2.1 RELACS AHWP Yearly Questionnaire (English version)

**Farm:** \_\_\_\_\_ **Altitude** (meters above sea level): \_\_\_\_\_ **Date:** \_\_\_\_\_

Herd size (average number of lactating and dry dairy cows for the last 12 months): \_\_\_\_\_

Persons involved in direct work with dairy cows: \_\_\_\_\_

Number of other livestock in the farm:

Dairy youngstock: \_\_\_\_\_; suckler cows and other beef cattle: \_\_\_\_\_; small ruminants: \_\_\_\_\_

Horses: \_\_\_\_\_; pigs: \_\_\_\_\_; poultry: \_\_\_\_\_; others \_\_\_\_\_:

#### Farm land

Total farm land (ha): \_\_\_\_\_

thereof (approximately) for dairy cows' feed:

- Permanent grassland (ha): \_\_\_\_\_
- Rotation grassland (ha): \_\_\_\_\_
- Rotation maize (ha): \_\_\_\_\_
- Rotation crops (ha): \_\_\_\_\_
- Rotation \_\_\_\_\_ (ha): \_\_\_\_\_

#### Feeding of dairy cows (lactating and dry cows)

Summer feeding days: \_\_\_\_\_

- Pasture (% of dry matter): \_\_\_\_\_
- Cut grass (% of dry matter): \_\_\_\_\_
- Hey (% of dry matter): \_\_\_\_\_
- Maize silage (% of dry matter): \_\_\_\_\_
- Grass silage (% of dry matter): \_\_\_\_\_
- Protein concentrates (% of dry matter): \_\_\_\_\_
- Energy concentrates (% of dry matter): \_\_\_\_\_
- Others: \_\_\_\_\_ (% of dry matter): \_\_\_\_\_

Winter feeding days (including transition feeding in spring and autumn): \_\_\_\_\_

- Pasture (% of dry matter): \_\_\_\_\_
- Cut grass (% of dry matter): \_\_\_\_\_
- Hey (% of dry matter): \_\_\_\_\_
- Maize silage (% of dry matter): \_\_\_\_\_
- Grass silage (% of dry matter): \_\_\_\_\_
- Protein concentrates (% of dry matter): \_\_\_\_\_



- Energy concentrates (% of dry matter): \_\_\_\_\_
- Others: \_\_\_\_\_ (% of dry matter): \_\_\_\_\_

### Culling of cows within the last 12 months

- total culling (number of cows, including died cows): \_\_\_\_\_
- culling for udder health reasons (number of cows): \_\_\_\_\_

### Stable

- loose house cubicles
- loose house deep litter
- loose hose mixed system
- tethered system
- others: \_\_\_\_\_

bedding material: \_\_\_\_\_

### Milking

- Milking technology (please choose the system and fill in the respective numbers)
  - herringbone parlour (milking places\_\_\_; milking clusters \_\_\_\_)
  - tandem parlour (milking places\_\_\_; milking clusters \_\_\_\_)
  - rotary milking parlour (milking places\_\_\_; milking clusters \_\_\_\_)
  - side by side (milking places\_\_\_; milking clusters \_\_\_\_)
  - robot (number of cows per robot \_\_\_\_)
  - others: \_\_\_\_\_
- Degree of automatization
  - automatic stimulation
  - automatic take off
- Milking management
  - Number of persons regularly milking on farm ( $\geq 4$  times/week): \_\_\_\_\_
  - Number of persons regularly milking per milking time: \_\_\_\_\_
  - Fore milking process
    - no fore milking
    - fore milking on the parlor floor
    - for milking in a fore milking cup
  - Teat cleaning process
    - no cleaning
    - douchette
    - cleaning with one piece of cleaning material for several cows
    - cleaning with a new piece of cleaning material for each cows
  - Delay between first handling and start of milking an individual cow (sec.) \_\_\_\_
  - Post milking teat treatment
    - no treatment
    - dipping with pure care product
    - spraying with pure care product



- dipping with teat disinfectant (barrier effects: yes \_\_\_/no \_\_\_)
- spraying with teat disinfectant (barrier effects: yes \_\_\_/no \_\_\_)

#### Number of treatments during the last 12 months (approximately)

	Antimicrobial	Non-antimicrobial	Alternative
Udder treatments for drying off and during dry period			
Mastitis treatments during lactation			
Endometritis treatments			
Other treatments			

### 5.2.2 RELACS AHWP Yearly Questionnaire (French version)

**Nom d'exploitation:** \_\_\_\_\_ **Altitude (mètres):** \_\_\_\_\_ **Date:** \_\_\_\_\_

Taille du troupeau (nombre moyen de vaches en lactation et de vaches laitières tarées au cours des 12 derniers mois): \_\_\_\_\_

Personnes travaillant directement avec les vaches laitières : \_\_\_\_\_

Autres espèces animales présentes et leur effectif :

Jeunes animaux (cheptel laitier): \_\_\_\_\_; vaches allaitantes et autres bovins de boucherie: \_\_\_\_\_;

Petits ruminants: \_\_\_\_\_; chevaux: \_\_\_\_\_; porcs: \_\_\_\_\_; volailles: \_\_\_\_\_;

Autres \_\_\_\_\_: \_\_\_\_\_

#### Surfaces agricoles

SAU (ha): \_\_\_\_\_

Dont surface pour l'alimentation des vaches laitières (approximatif) :

- Prairies permanentes (ha): \_\_\_\_\_
- Prairies temporaires (ha): \_\_\_\_\_
- Maïs (ha): \_\_\_\_\_
- Grandes cultures (ha) : \_\_\_\_\_
- Autres cultures: \_\_\_\_\_ (ha): \_\_\_\_\_

#### Alimentation des vaches laitières (vaches en lactation et tarées)

Nombre de jours de ration estivale : \_\_\_\_\_

- Pâturage (% MS): \_\_\_\_\_
- Affouragement au vert (% MS): \_\_\_\_\_
- Foin (% MS): \_\_\_\_\_
- Ensilage de maïs (% MS): \_\_\_\_\_
- Ensilage d'herbe (% MS): \_\_\_\_\_
- Concentrés azotés (% MS): \_\_\_\_\_
- Concentrés énergétiques (% MS): \_\_\_\_\_
- Autres : (% MS): \_\_\_\_\_



Nombre de jours d'alimentation hivernale (y compris l'alimentation de transition au printemps et à l'automne):

- Pâturage (% MS): \_\_\_\_\_
- Affouragement au vert (% MS): \_\_\_\_\_
- Foin (% MS): \_\_\_\_\_
- Ensilage de maïs (% MS): \_\_\_\_\_
- Ensilage d'herbe (% MS): \_\_\_\_\_
- Concentrés azotés (% MS): \_\_\_\_\_
- Concentrés énergétiques (% MS): \_\_\_\_\_
- Autres : (% MS): \_\_\_\_\_

### Réforme des vaches laitières au cours des 12 derniers mois

- Nombre total de vaches réformées (y compris vaches mortes): \_\_\_\_\_
- Nombre de vaches réformées pour des raisons de santé de la mamelle: \_\_\_\_\_

### Type de bâtiment

- logettes
- Aire paillée
- Système mixte (logette/aire paillée)
- Entravé
- autres: \_\_\_\_\_

Matériel de la litière: \_\_\_\_\_

### Traite

- Type de salle de traite (veuillez choisir le système et indiquer les quantités correspondantes)
  - Salle de traite en épi (Nombre de places\_\_\_\_; nombre de faisceaux trayeurs \_\_\_\_)
  - Salle de traite en tandem (Nombre de places\_\_\_\_; nombre de faisceaux trayeurs \_\_\_\_)
  - salle de traite rotative (Nombre de places\_\_\_\_; nombre de faisceaux trayeurs \_\_\_\_)
  - côte à côte (Nombre de places\_\_\_\_; nombre de faisceaux trayeurs \_\_\_\_)
  - robot (nombre de vaches par robot \_\_\_\_)
  - Autres: \_\_\_\_\_
- Degré d'automatisation
  - stimulation automatique
  - décrochage automatique des faisceaux traiteurs
- Gestion de la traite
  - Nombre de personnes réalisant la traite régulièrement à la ferme ( $\geq 4$  fois/semaine): \_\_\_\_\_
  - Nombre de personnes réalisant la traite régulièrement (par traite): \_\_\_\_\_
  - Avant la traite: premiers jets
    - pas de premiers jets
    - par terre
    - bol à fond noir
  - Nettoyage des trayons avant la traite
    - Pas de nettoyage
    - Douchette
    - Nettoyage avec une pièce de produit de nettoyage pour quelques vaches
    - Nettoyage avec un nouveau produit de nettoyage pour chaque vache

- Délai entre la première manipulation et le début de la traite par vache (en secondes) \_\_\_\_.
- Hygiène des trayons après la traite
  - pas de traitement
  - trempage avec un produit cosmétique
  - vaporisation avec un produit cosmétique
  - trempage avec un produit désinfectant des trayons (effet barrière: oui \_\_\_/non \_\_\_)
  - pulvérisation avec un produit désinfectant des trayons (effet barrière: oui \_\_\_/non \_\_\_)

**Nombre de traitements au cours des 12 derniers mois (environ)**

	Antimicrobien	Non Antimicrobien	Alternatif
Traitement des mamelles au tarissement (et pendant la période de tarissement)			
Traitement contre mammites (vaches en lactation)			
Traitement endométrites			
Autres traitements			

**5.3 RELACS AHWP AssureWel Dairy Assessment Protocol**

**5.3.1 RELACS AHWP AssureWel Dairy Welfare scoresheet 20 cows**

Excel file: *App\_5\_3\_1\_20\_E\_AssureWel Dairy scoresheet - RELACS\_20cows.xlsx*

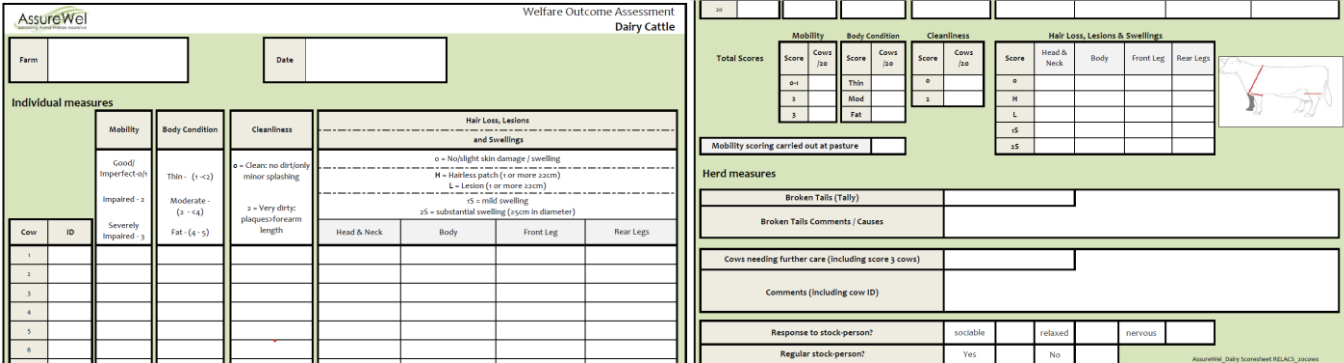


Figure 1: Captures from the AssureWel Dairy Scoresheet

**5.3.2 RELACS AHWP AssureWel Dairy Welfare scoresheet 50 cows**

Excel file: *App\_5\_3\_4\_50\_E\_AssureWel Dairy scoresheet - RELACS\_50cows.xlsx*



### 5.3.3 RELACS AHWP AssureWel Dairy Welfare Outcome Assessment Protocol Dairy Cattle




Assessment protocol (adapted from original AssureWel protocol with permission)

#### Guidance on sampling:

- For the RELACS WP5 Welfare Outcome Assessment only the Individual Measures need to be completed with a revised approach to sample size selection as detailed below.
- The Herd measures and All animals on farm measures are optional to the assessor.
- The Records measures from the original AssureWel protocol are not required as replaced by the RELACS requirement.

Individual measures	
<b>1. Mobility</b> a. Individual scoring b. Assessment c. Lameness per 100 cows <b>2. Body condition</b> <b>3. Cleanliness</b> <b>4. Hair loss and lesions</b> <b>5. Swellings</b>	<ul style="list-style-type: none"> <li>• Assessed on a minimum of <b>20 cows or 20% of the dairy herd up to a maximum of 50 cows</b>, sampled randomly from <b>all groups of milking cows</b> by assessor. Lying cows need not be included if it might risk their welfare.</li> </ul>
Herd measures (OPTIONAL FOR RELACS)	
<b>6. Broken tails</b> <b>7. Response to stockperson</b>	<ul style="list-style-type: none"> <li>• Assessed across <b>all milking cows</b>.</li> </ul>
All animals on farm (OPTIONAL FOR RELACS)	
<b>8. Cows needing further care</b>	<ul style="list-style-type: none"> <li>• Assessed across <b>all animals on farm</b>.</li> <li>• For example, identify any mobility score three cows not receiving adequate care / treatment.</li> </ul>



<b>I. Mobility</b>	
<b>a. Individual scoring</b>	
<b>Individual measure</b>	
<p><b>Sample: 20 cows</b> selected at random (<b>3</b> or more assessed jointly with stockperson)</p> <p>Assess using the DairyCo scoring method. Observe cows, ideally on a hard (e.g., concrete) non-slip surface. Monitor each cow individually allowing them to make between 6-10 uninterrupted strides. Watch the cow from the side and the rear.</p> <p><b>Scoring:</b></p>	
<p><b>0/1 = Good/Imperfect mobility</b> Walks with even weight bearing and rhythm on all four feet, with a flat back; long fluid strides possible; or steps uneven (rhythm or weight bearing) or strides shortened; affected limb/s not immediately identifiable</p>	
<p><b>2 = Impaired mobility</b> Uneven weight bearing on a limb that is immediately identifiable and/or obviously shortened stride (usually with an arch to the centre of the back)</p>	
<p><b>3 = Severely impaired mobility</b> Unable to walk as fast as a brisk human pace (cannot keep up with the healthy herd) and signs of impaired mobility (score 2)</p>	
<p><b>Please indicate if mobility is carried out at pasture.</b></p>	
<b>b. Assessment Records</b>	
<p>Verify if mobility scoring is being carried out on farm. Check and comment on who is carrying this out, any formal training they have received and the frequency and scope (e.g., whole herd) of mobility scoring conducted.</p>	
<b>c. Lameness per 100 cows Records</b>	
<p>From the RT Herd Health Plan (Annual Monitoring and Review section) record the number of recorded cases of lameness per 100 cows for the previous 12 months.</p>	

Images kindly supplied by DairyCo.



## 2. Body condition

### Individual measure

**Sample: 20 cows** selected at random (3 or more assessed jointly with stockperson)

Visually assess cattle based on the Defra condition scoring method, viewing the animal from behind and from the side, the tail head and loin area:

#### Scoring:

##### Thin = Defra score 1 to less than 2

Score 1: Tail head – deep cavity with no fatty tissue under skin.

Skin fairly supple but coat condition often rough.

Loin – spine prominent and horizontal processes sharp.



**The following list should assist in making a confident decision with cows in BCS <2.**

Individual vertebra will be distinct along the backbone.

Individual horizontal processes are visible as individual bones and give a prominent shelf-like appearance to the loin.

Outline of 4 or more ribs are visible.

Outline of the hook bone is visible and angular with no fat padding.

Outline of the pin bone is visible and angular with no fat padding.

Tailhead is prominently visible. Either side of tailhead is sunken and hollow. There are folds of skin in the depression between the tail head and pin bone.

Thurl is sunken and curved in.

##### Moderate = Defra score 2 or 3 to less than 4

- **Good** Score 2: Tail head – shallow cavity but pin bones prominent; some fat under skin, skin supple.  
Loin – horizontal processes can be identified individually with ends rounded.

Score 3: Tail head – fat cover over whole area and skin smooth but pelvis may be seen.

Loin – end of individual horizontal process cannot be seen; only slight depression in loin.



##### Fat = Defra score 4 to 5

Score 4/5: Tail head – completely filled or buried and folds and patches of fat evident.

Loin – cannot see horizontal processes and completely rounded appearance (a slight loin depression may still be seen).



**The following list should assist in making a confident decision with cows in BCS ≥4.**

Back is solid and straight.

Individual horizontal processes are **no** longer visible as individual bones, but a rounded shelf-like appearance is still observable.

Hook bones are rounded with obvious fat padding or may not be obviously visible because they are buried in fat.


Pin bones are rounded with obvious fat padding or may not be obviously visible because they are buried in fat.

Tail head and thurl is filled in.

**3. Cleanliness**  
**Individual measure**


**Sample: 20 cows** selected at random (**3** or more assessed jointly with stockperson)

Visually assess the one randomly selected side of the animal and behind, only including the hind quarters to coronary band and udder:



**Scoring:**

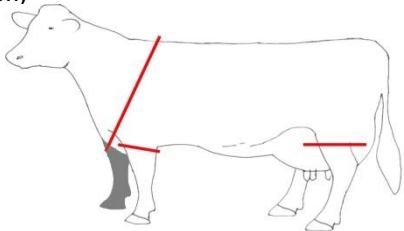
- 0 = Clean**  
No dirt or only minor splashing present
- 2 = Very Dirty**  
An area of dirtiness (e.g., layer or plaques of dirt) amounting to at least forearm length (40cm) in any dimension.



**4. Hair loss and lesions**  
**Individual measure**

**Sample: 20 cows** selected at random (**3** or more assessed jointly with stockperson)







Visually assess the following regions of one (randomly selected) side of the animal, from a distance not exceeding 2m (see picture):



- a. Head & Neck
- b. Body (including flank, back & hindquarter)
- c. Front leg
- d. Rear legs (including outside of the near leg and inside of the far leg as well as the udder with teats)

**Scoring:**

- 0 = No hair loss or lesion**  
No lesions or hairless patches  $\geq 2\text{cm}$  diameter.  
No hair is missing, or any hairless/bald patch is smaller than a £1 coin (2cm diameter).
- H = Hairless patches**  
One or more hairless patches (may include scars)  $\geq 2\text{cm}$  diameter
- L = Lesion**  
One or more lesions (areas of skin damage e.g., wound or scab)  $\geq 2\text{cm}$  diameter.  
(Score as a lesion even if accompanied by a hairless patch. Do not include scars)

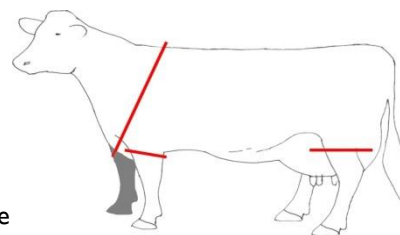







## 5. Swellings

### Individual measure

**Sample: 20 cows** selected at random (**3** or more assessed jointly with stockperson)

Visually assess the following regions of one (randomly selected) side of the animal, from a distance not exceeding 2m (see picture):



- Head & Neck
- Body (including flank, back & hindquarter)
- Front leg
- Rear legs (including outside of the near leg and inside of the far leg as well as the udder with teats)

#### Scoring:

#### 0 = No swelling

No swelling or no swelling  $\geq 2$ cm diameter (smaller than grape-sized)

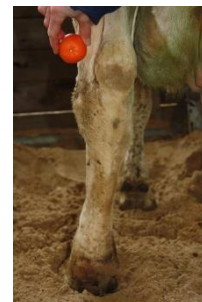


#### 1S = Mild swelling

Mild swelling is such that the normal anatomy of the area is enlarged, poorly defined or obscured.

Around the hock and the knee this will be apparent as a lack of definition of the tendons and other structures around the joint, and the hock will appear to have lost the 'waist' to the joint.

On other parts of the body the swelling will be 2- 5cm in diameter e.g., a golf ball.

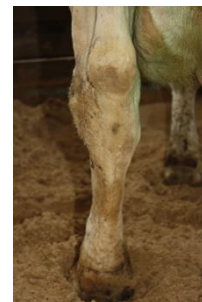
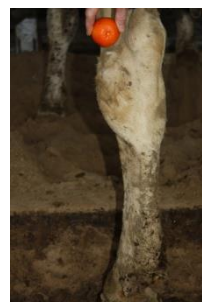


#### 2S = Substantial swelling

Substantial swelling is an abnormal enlargement which is a prominent / pronounced extension away from the body.

Around the hock and the knee (carpus) this will be apparent as an obviously rounded swelling  $> 5$ cm in diameter, e.g., the size of a clementine.

On other parts of the body the swelling may be long, rather than round.



**NB:** swollen hocks = a thickening of the joint such that the usual joint anatomy becomes poorly defined or obscured.

## 6. Broken tails

### Herd measure

Whilst assessing the herd, record the number of animals that show evidence of a broken tail, including tails that are bent, short or injured.

Investigate and record possible causes of any broken tails observed.



7. Response of cattle to stockperson Herd measure		
<p>Check whether the person present for the assessment is the regular stockperson. Throughout the visit, observe the response of the cattle to the stockperson as they approach and interact with the cattle. As far as possible assess response to the stockperson alone, rather than the assessor.</p>		
<b>Scoring:</b>	<p><b>0 = Sociable (to the stockperson)</b>  <b>1 = Relaxed</b>  <b>2 = Nervous</b></p>	

8. Cows needing further care All animals on farm	
<p>Assess the whole herd - including the milking herd, dry cows, in-calf heifers, calves, hospital pens and animals that are due to leave the farm. Record and comment on the number of any sick or injured cows that would benefit from further intervention (including mobility score 3 cows). Further interventions could include further treatment, hospitalisation (e.g., removal from the main herd) or culling. <b>Do not include sick or injured cows already receiving suitable care.</b></p>	

## 5.4 RELACS AHWP Farmer Field School outcome protocol

### 5.4.1 RELACS AHWP Farmer Field School outcome protocol (English version)

Host Farm:

Date:

Advising guest farmers attending the meeting:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

#### The Success Case



**Problem area / Question I of the host farmer**

**Feedback of the guest advising farmers**

1.

2.

3.

4.

5.

6.

**Conclusion I of the host farmer**



**Problem area / Question II of the host farmer**

**Feedback of the guest advising farmers**

1.

2.

3.

4.

5.

6.

**Conclusion II of the host farmer**

**Further notes and overall conclusions**



## 5.4.2 RELACS AHWP Farmer Field School outcome protocol (French version)

Ferme « hôte » :

Date:

---

Agriculteurs “conseillers” participant à la réunion:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

**Cas de réussite**

**1<sup>er</sup> Problème / Question de l'agriculteur hôte**

**Retour des agriculteurs “conseillers”**

- 1.
- 2.
- 3.
- 4.
- 5.



**6.**

**Ière Conclusion de l'agriculteur "hôte"**





## **2ème Problème/ Question de l'agriculteur « hôte »**

### **Retour des agriculteurs “conseillers”**

**1.**

**2.**

**3.**

**4.**

**5.**

**6.**

### **2ème Conclusion de l'agriculteur « hôte »**

### **Conclusions générales et autres notes**

### 5.5 Entry mask for milk recording data

Excel file: *App\_5\_5\_E\_RELACS DATA Milk Recording.xlsx*

Country	Farm	Date of MR	Cow ID	Calving date	Number of lactation	Milk yield (kg)	Protein (%)	Fat (%)	Somatic Cell Count
CH	Müller	27/04/2018	CH 120.1237.9729	01/03/2018	2	28	3.45	4.18	67

Figure 2: Capture of the Data Milk Recording mask

### 5.6 Entry mask and analyse form for treatment data

Excel file: *App\_5\_6\_E\_RELACS DATA Treatment.xlsx*

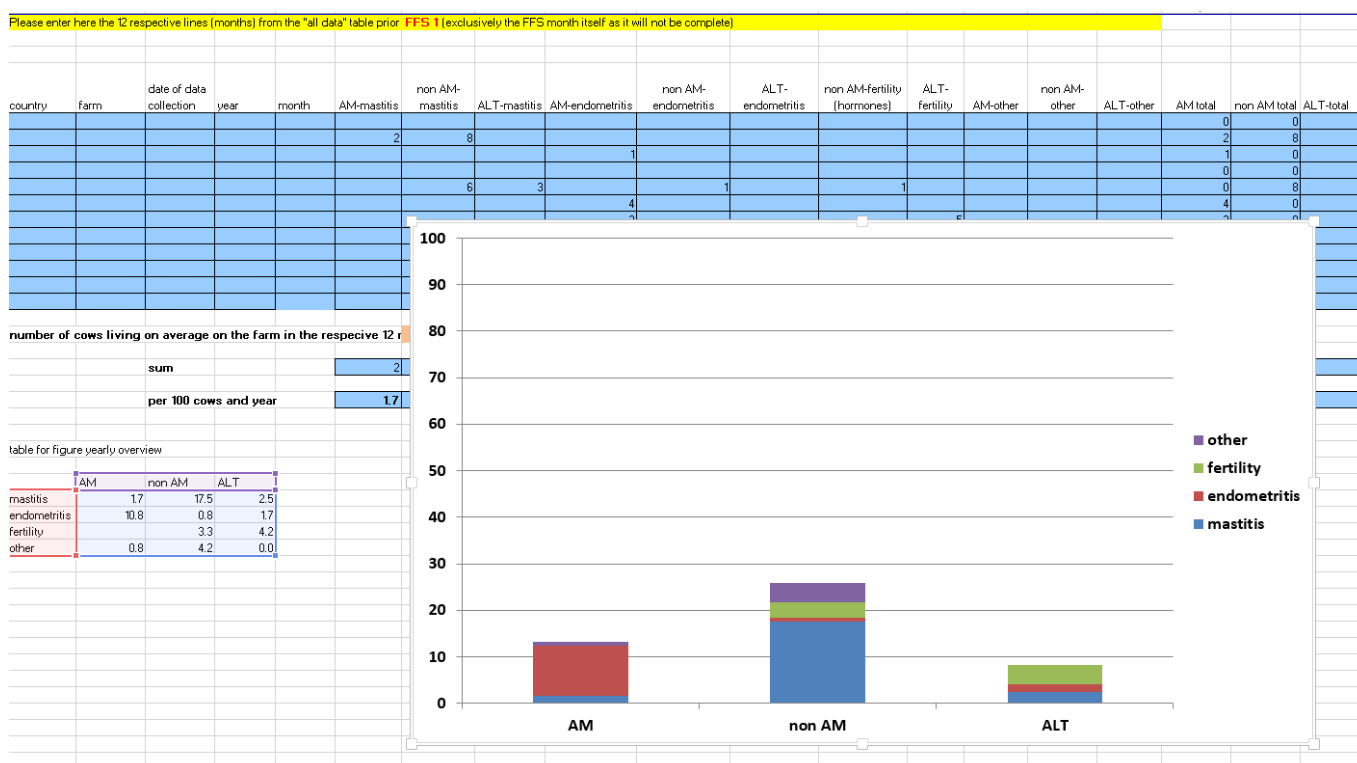


Figure 3: Capture of the outcome in Data Treatment mask

### 5.7 Entry mask for on farm welfare assessment and yearly questionnaire

Excel file: *App\_5\_7\_RELACS DATA yearly farm data (Questionnaire and Assure Well).xlsx*

Country	Farm	Date of data collection	wf % of dm maize silage	wf % of dm grass silage	wf % of dm protein concentrate	wf % of dm energy concentrate	wf % of dm others	wf others description	wf % total	Culled (included died) cows during the last 12 months total	% cows culled	Culled (included died) cows during the last 12 months for udder health reasons	% cows culled for udder health reasons	Stable system	Bedding material (description)	Milking technology	Milking places*
CH	Müller	18/03/2019	20	35	2.5	2.5	0		100	8	25	3	9	loose house cubicles		tandem parlour	

Figure 4: Capture of the Yearly Farm Data mask

## 5.8 Informed consent form for farmers

### 5.8.1 Informed consent form for farmers (English version)



## Generic Informed Consent RELACS template

### Informed Consent

Project Acronym: RELACS

Project Name: Replacement of Contentious Inputs in Organic Farming Systems

Start date of the project 01/05/2018

End date of the project 30/04/2022

Website [www.relacs-project.eu](http://www.relacs-project.eu)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 773431.

#### I. Introduction

You have been invited to take part in a research study. Before making a decision on whether you want to participate or not, please read this document carefully. Please ask any questions you may have so you have a complete understanding of the study. This informed consent document may include words or statements that you do not understand. If this is the case, please ask the contact researcher or any other member of the study to fully explain the meaning of the word or statement. At all times, we are in compliance with the current EU legislation on protection of personal data (Regulation (EU) 2016/679).

Data acquisition in the Project will consist of surveys, questionnaires, interviews and focus groups.

The specific objectives of the task in which you are involved are as follows: *(include here the objectives of the specific task <TASK NUMBER> considered, see above)*

#### 2. About 'Replacement of Contentious Inputs in Organic Farming Systems (RELACS)'

Organic farmers adhere to high standards in producing quality food while protecting the environment. However, organic farming needs to improve continuously to keep meeting its ambitious objectives. The project 'Replacement of Contentious Inputs in Organic Farming Systems' (RELACS) will foster the development and adoption of cost-efficient and environmentally safe tools and technologies to:

- Reduce the use of copper and mineral oil in plant protection,



- Identify sustainable sources for plant nutrition, and
- Provide solutions to support livestock health and welfare.

As a system approach to sustainable agriculture, organic farming aims to effectively manage ecological processes whilst lowering dependence on off-farm inputs. The RELACS partners will evaluate solutions to further reduce the use of inputs across Europe as well as in countries on the Southern shore of the Mediterranean. The project partners will provide scientific support to develop fair and implementable EU rules to improve current practices in organic farming. Farm advisory networks in 11 European countries will reach out to farmers to ensure effective dissemination and adoption of the tools and techniques.

RELACS builds on results of previous research projects and takes far-advanced solutions forward. In the case of copper reduction, plant extracts from *Glycyrrhiza glabra*, *Larix decidua*, as well as another plant extract (SUMB) and a milk derivative will be adopted. In the case of reduction of mineral oils, a plant extract from *Clitoria terneata*, orange oil and a vibrational mating disruption technique will be applied and refined. In order to reduce the dependence on manure from non-organic sources, technologies to recycle nutrients from waste streams will be evaluated and a planning tool will be developed to match available nutrient sources with the need for nutrient inputs. Endoparasite control strategies for ruminants will be based on bioactive feed plants and the biocontrol agent *Duddingtonia flagrans*. Dependency on antibiotic use in dairy cows will be reduced by transferring preventive Animal Health and Welfare Planning protocols and by refining farmers' experience of use of essential oils for direct mastitis control. The potential for reduction of synthetic Vitamins E and B2 usage is explored by revising and validating the requirement definitions livestock diets and by development of GMO-free vitamin-producing yeast strains.

The products and management practices will be evaluated in different pedo-climatic and farming conditions in the EU and Mediterranean third countries. RELACS will develop implementation roadmaps by analysis of the socio-economic conditions required for acceptance and adoption of alternatives and provide scientific support for relevant EU policies to develop fair, reliable, and implementable rules. Rapid dissemination and adoption of techniques along the food value chain will be achieved via established dissemination structures in 12 European countries.

The project was developed by involving actors from research, farming, advisory services, and industry from the very start hence implementing a truly multi-actor approach. RELACS has 29 (direct and third party) partners from 13 countries.

The project partners are: the Research Institute of Organic Agriculture (FiBL) Switzerland, Fondazione Edmund Mach (Italy), Università degli studi di Trento (Italy), Julius Kühn-Institut Bundesforschungsinstitut für Kulturpflanzen (Germany), IFOAM Organics Europe (Belgium), the Soil Association (the United Kingdom), Asociación Valor Ecológico, CAAE - Ecovalia (Spain), Federazione Italiana Agricoltura Biologica e Biodinamica (Italy), Öko-Obstbau Norddeutschland : Versuchs- und Beratungsring e.V. (Germany), Foundation for organic Agriculture Bioselena (Bulgaria), Eesti Mahepõllumajanduse Sihtasutus (Estonia), Bioforum Vlaanderen (Belgium), Naturland - Verband für ökologischen Landbau e. V. (Germany), Økologisk Landsforening (Denmark), Scotland's Rural College (the United Kingdom), Københavns Universitet (Denmark), Universität Hohenheim (Germany), Mediterranean Agronomic Institute of Bari (Italy), Institut Technique de l'Agriculture Biologique (France), Fédération des Eleveurs Et Vétérinaires En Convention (FEVEC, France), Institut de l'Élevage (France), Institut Technique Interprofessionnel des Plantes à Parfum Médicinales et Aromatiques (France), Adage35 (France), Thünen-Institut (Germany), NIBIO - Norsk Institutt for Bioøkonomi (Norway), Okologiai Mezogazdasági Kutatóintézet (Hungary), Trifolio-M GmbH (Germany), SubstainTec GmbH (Switzerland), BiPA NV (Belgium).

### 3. Duration of the research activities

RELACS activities will last 48 months from 01/05/2017 to 30/04/2022 and the specific task NUMBER considered here is foreseen between D1/M1/Y1 and D2/M2/Y2.

### 4. Risks or inconveniences

No risk is foreseen. You are only requested to be available to participate.



## 5. Benefits

While it is likely that you will not receive any personal benefit for your participation in this study, you will receive the report of the survey/study. Your participation in this study will make a substantial contribution to understanding <THE TOPIC OF THIS TASK>.

## 6. Privacy and confidentiality

Responses you give in the questionnaires (interviews, workshop or focus group) will be recorded. Information will be stored, processed during data analysis, and will be shown in project reports, which are restricted to the consortium.

The results of this investigation may be published in scientific journals or conferences and may be used in further studies. No personal data will be shared with third party companies.

The authorization for the use and access to this information is valid until the end of the study unless you decide to cancel your participation at any time. If you decide to remove your consent and beyond, please contact the leading researcher. Your decision to give your consent for the use and diffusion of information provided by you is completely voluntary. If you do not provide the consent in this form or if you remove consent in the future, you will not participate in this study.

To know more about RELACS privacy policy, see <http://www.relacs-project.eu/privacy-policy.html>

## 7. Contact person

In case of any issue involving you in your role of participant in this study, you are invited to inform, via email, the Leading Researcher <NAME\_SURNAME> ([Name@Organisation.country](mailto:Name@Organisation.country)) or the Project Coordinator, Dr Lucius Tamm ([lucius.tamm@fibl.org](mailto:lucius.tamm@fibl.org)).

## 8. Confirmation

Your participation is subject to the independent completion of this consent form. If you do not wish to do so, please do not complete this form.

I hereby declare:

- I am 18 years or older and have the ability to provide consent;
- I have been fully informed about the aims and purposes of the RELACS Project and of the specific study I am involved in;
- I understand that participation in the RELACS project is voluntary and, if I choose to participate, I may at any stage withdraw my participation;
- I have read this consent form and have had the opportunity to ask questions and all my questions have been answered to my satisfaction;
- I agree that my data (collected by surveys, questionnaires, interviews or focus groups) will be used for scientific purposes;
- I am aware that, upon request, the researcher(s) will be able to preserve my anonymity;
- I am aware that, upon request, the video portraits will be sent before publication and I will be able to comment;
- I understand that, subject to the constraints above, no recordings will be replayed in any public forum or made available to any audience other than the researchers within the project;



- I freely and voluntarily agree to be part of this research study, without prejudice to my legal and ethical rights;
- I understand that I may refuse to answer any question and that I may withdraw at any time without penalty;
- Information may be shared between any of the other researcher(s) and partners participating in this Project;
- I have received a copy of this agreement. This consent form is made in accordance with the relevant national, European, and international data protection laws and regulations and personal data treatment obligations. This consent document complies with the following laws and regulations: EU General Data Protection Regulation (GDPR) Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

.....

Name and surname of participant

.....

Place, date, and signature of participant (electronic signature for web-survey)

Statement of investigator’s responsibility: I have explained the nature and purpose of this research study, the procedures to be undertaken and any risks that may be involved. I have offered to answer any questions and fully answered such questions. I believe that the participant understands my explanation and has freely given informed consent.

.....

Name and surname of the study director

.....

Place, date, and signature of the study director



## 5.8.2 Informed consent form for farmers (French version)



### Modèle générique de consentement éclairé RELACS

#### Consentement éclairé

Acronyme du projet: RELACS

Nom du projet: Remplacement des intrants litigieux dans les systèmes d'agriculture biologique

Date de début du projet 01/05/2018

Date de fin du projet 30/04/2022

Site Web: [www.relacs-project.eu](http://www.relacs-project.eu)

Ce projet a été financé par le programme de recherche et d'innovation Horizon 2020 de l'Union européenne dans le cadre de la convention de subvention n° 773431.

#### I. Introduction

Vous avez été invité à participer à une étude de recherche. Avant de décider si vous voulez participer ou non, veuillez lire attentivement ce document. Veuillez poser toutes les questions que vous pourriez avoir afin d'avoir une compréhension complète de l'étude. Ce document de consentement éclairé peut contenir des mots ou des déclarations que vous ne comprenez pas. Si tel est le cas, veuillez demander au chercheur contact ou à tout autre membre de l'étude d'expliquer en détail la signification du mot ou de l'énoncé. En tout temps, nous nous conformons à la législation européenne en vigueur sur la protection des données personnelles (Règlement (UE) 2016/679).

L'acquisition de données dans le cadre du projet consistera en des sondages, des questionnaires, des entrevues et des groupes de discussion.

Les objectifs spécifiques de la tâche à laquelle vous participez sont les suivants : (inclure ici les objectifs de la tâche spécifique <NUMÉRO DE TÂCHE> considérée, voir ci-dessus)

#### 2. A propos de 'Remplacement des intrants litigieux dans les systèmes d'agriculture biologique (RELACS)'

Les agriculteurs biologiques adhèrent à des normes élevées pour produire des aliments de qualité tout en protégeant l'environnement. Toutefois, l'agriculture biologique doit constamment s'améliorer pour continuer à atteindre ses objectifs ambitieux. Le projet "Remplacement des intrants litigieux dans les systèmes d'agriculture biologique (RELACS)" promouvra le développement et l'adoption d'outils et de technologies rentables et respectueux de l'environnement afin de:

- Réduire l'utilisation du cuivre et de l'huile minérale dans la protection des plantes,
- Identifier des sources durables pour la nutrition des plantes, et
- Fournir des solutions axées sur la santé et le bien-être du bétail.



En tant qu'approche systémique de l'agriculture durable, l'agriculture biologique vise à gérer efficacement les processus écologiques tout en réduisant la dépendance aux intrants non agricoles. Les partenaires de RELACS évalueront les solutions pour réduire davantage l'utilisation des intrants dans toute l'Europe ainsi que dans les pays du sud de la Méditerranée. Les partenaires du projet fourniront un soutien scientifique pour élaborer des règles communautaires équitables et applicables afin d'améliorer les pratiques actuelles en matière d'agriculture biologique. Dans 11 pays européens, des réseaux de conseillers (-ères) agricoles se mettront en contact avec les agriculteurs pour assurer une diffusion et une adoption efficaces des outils et des techniques développés.

RELACS s'appuie sur les résultats de projets de recherche antérieurs et propose des solutions très avancées. Dans le cadre de la réduction du cuivre, des extraits végétaux de *Glycyrrhiza glabra*, *Larix decidua*, ainsi qu'un autre extrait végétal (SUMB) et un dérivé du lait seront adoptés. Dans le cadre de la réduction des huiles minérales, un extrait végétal de *Clitoria terneata*, de l'huile d'orange et une technique de perturbation de l'accouplement par des vibrations seront appliqués et affinés. Afin de réduire la dépendance à l'égard du fumier provenant de sources non biologiques, des technologies de recyclage des éléments nutritifs provenant des flux de déchets seront évaluées et un outil de planification sera mis au point afin de faire correspondre les sources d'éléments nutritifs disponibles aux besoins d'intrants nutritifs. Les stratégies de lutte contre les endoparasites chez les ruminants seront basées sur des plantes fourragères bioactives et l'agent de lutte biologique *Duddingtonia flagrans*. La dépendance à l'utilisation d'antibiotiques chez les vaches laitières sera réduite par la communication de protocoles préventifs de planification de la santé et du bien-être des animaux et par le perfectionnement de l'expérience des agriculteurs en matière d'utilisation des huiles essentielles pour soigner les mammites. Le potentiel de réduction de l'utilisation des vitamines de synthèse E et B2 est exploré par la révision et la validation des définitions des besoins alimentaires du bétail et par le développement de souches de levure sans OGM produisant des vitamines.

Les produits et les pratiques de gestion seront évalués dans différentes conditions pédo-climatiques et d'élevage dans l'UE et dans les pays tiers méditerranéens. RELACS élaborera des feuilles de route pour la mise en œuvre de ces alternatives en analysant les conditions socio-économiques nécessaires à leur acceptation et adoption. RELACS apportera un soutien scientifique aux politiques pertinentes de l'UE pour élaborer des règles équitables, fiables et applicables. La diffusion et l'adoption rapides des techniques tout au long de la chaîne de valeur des produits alimentaires seront assurées par des structures de diffusion établies dans 12 pays européens.

Le projet a été développé en impliquant dès le début des acteurs de la recherche, de l'agriculture, des services de conseil et de l'industrie, mettant ainsi en œuvre une véritable approche multi-acteurs. RELACS compte 29 partenaires (directs et tiers) de 13 pays.

Les partenaires du projet sont : l'Institut de recherche en agriculture biologique (FiBL) Suisse, la Fondazione Edmund Mach (Italie), l'Università degli studi di Trento (Italie), Julius Kühn-Institut Bundesforschungsinstitut für Kulturpflanzen (Allemagne), IFOAM Organics Europe (Belgique), the Soil Association (Royaume-Uni), Asociación Valor Ecológico, CAAE - Ecovalia (Espagne), Federazione Italiana Agricoltura Biologica e Biodinamica (Italie), Öko-Obstbau Norddeutschland : Versuchs- und Beratungsring e.V. (Allemagne), Fondation pour l'agriculture biologique Bioselena (Bulgarie), Eesti Mahepollumajanduse Sihtasutus (Estonie), Bioforum Vlaanderen (Belgique), Naturland - Verband für ökologischen Landbau e. V. (Allemagne), Økologisk Landsforening (Danemark), Scotland's Rural College (Royaume-Uni), Københavns Universitet (Danemark), Universitaet Hohenheim (Allemagne), Mediterranean Agronomic Institute of Bari (Italie), Institut Technique de l'Agriculture Biologique (France), Fédération des Eleveurs Et Vétérinaires En Convention (FEVEC, France), Institut de l'Élevage (France), Institut Technique Interprofessionnel des Plantes à Parfum Médicinales et Aromatiques (France), Adage35 (France), Thünen-Institut (Allemagne), NIBIO - Norsk Instituti for Bioekonomi (Norvège), Okologiai Mezogazdasagi Kutatointezet (Hongrie), Trifolio-M GmbH (Allemagne), SubstainTec GmbH (Suisse), BiPA NV (Belgique).

### 3. Durée des activités de recherche

Les activités de RELACS dureront 48 mois du 01/05/2017 au 30/04/2022 et le numéro de tâche spécifique considéré ici est prévu entre J1/M1/Y1 et J2/M2/Y2.





#### 4. Risques ou inconvénients

Aucun risque n'est prévu. Il vous est seulement demandé d'être disponible pour participer.

#### 5. Avantages

Même s'il est probable que vous ne tirerez aucun avantage personnel de votre participation à cette étude, vous recevrez le rapport de l'enquête/étude. Votre participation à cette étude contribuera grandement à la compréhension du <SUJET DE CETTE TÂCHE>.

#### 6. Vie privée et confidentialité

Les réponses que vous donnez dans les questionnaires (entrevues, ateliers ou groupes de discussion) seront enregistrées. Les informations seront stockées, traitées au cours de l'analyse des données et figureront dans les rapports de projet, qui sont réservés au consortium.

Les résultats de cette recherche peuvent être publiés dans des revues scientifiques ou des conférences et peuvent être utilisés dans d'autres études. Aucune donnée personnelle ne sera communiquée à des sociétés tierces.

L'autorisation d'utilisation et d'accès à ces informations est valable jusqu'à la fin de l'étude, sauf si vous décidez d'annuler votre participation, ce qui peut être fait à tout moment. Si vous décidez de retirer votre consentement et au-delà, veuillez communiquer avec le chercheur principal. Votre décision de donner votre consentement à l'utilisation et à la diffusion des informations que vous nous avez fournies est entièrement volontaire. Si vous ne donnez pas votre consentement sous cette forme ou si vous retirez votre consentement à l'avenir, vous ne participerez pas à cette étude.

Pour en savoir plus sur la politique de confidentialité de RELACS, voir <http://www.relacs-project.eu/privacy-policy.html> (en anglais).

#### 7. Personnes de contact

En cas de problème vous impliquant dans votre rôle de participant à cette étude, vous êtes invité à en informer, par courrier électronique, le chercheur principal <PRENOM\_NOM> ([Nom@Organisation.pays](mailto:Nom@Organisation.pays)) ou le coordinateur du projet, le Dr Lucius Tamm ([lucius.tamm@fibl.org](mailto:lucius.tamm@fibl.org)).

#### 8. Confirmation

Votre participation est soumise à la condition que vous remplissiez de façon indépendante le présent formulaire de consentement. Si vous ne le souhaitez pas, veuillez ne pas remplir ce formulaire.

Je déclare par la présente :

- J'ai 18 ans ou plus et j'ai la capacité de donner mon consentement;
- J'ai été pleinement informé des buts et objectifs du projet RELACS et de l'étude spécifique à laquelle je participe.
- Je comprends que ma participation au projet RELACS est volontaire et, si je choisis d'y participer, je peux à tout moment retirer ma participation;
- J'ai lu ce formulaire de consentement et j'ai eu l'occasion de poser des questions et toutes mes questions ont été répondues à ma satisfaction.



- J'accepte que mes données (recueillies au moyen d'enquêtes, de questionnaires, d'entrevues ou de groupes de discussion) soient utilisées à des fins scientifiques;
- Je reconnais que, sur demande, le(s) chercheur(s) pourrait (pourront) préserver mon anonymat;
- Je sais que, sur demande, les portraits vidéo me seront envoyés avant la publication et que je pourrai les commenter;
- Je comprends que, sous réserve des contraintes susmentionnées, aucun enregistrement ne sera rediffusé dans un forum public ou mis à la disposition d'un public autre que les chercheurs du projet;
- J'accepte librement et volontairement de participer à cette étude de recherche, sans préjudice de mes droits légaux et éthiques;
- Je comprends que je peux refuser de répondre à toute question et que je peux me retirer en tout temps sans pénalité;
- L'information peut être partagée entre les autres chercheurs et les partenaires participant à ce projet;
- J'ai reçu une copie de cet accord. Ce formulaire de consentement est établi conformément aux lois et réglementations nationales, européennes et internationales applicables en matière de protection des données et aux obligations en matière de traitement des données personnelles. Ce document de consentement est conforme aux lois et règlements suivants : Règlement (UE) n° 2016/679 du Parlement européen et du Conseil du 27 avril 2016 relatif à la protection des personnes physiques à l'égard du traitement des données à caractère personnel et à la libre circulation de ces données, et abrogeant la directive 95/46/CE (Règlement général sur la protection des données).

.....

Nom et prénom du participant

.....

Lieu, date et signature du participant (signature électronique pour le sondage en ligne)

Déclaration de responsabilité de l'enquêteur : J'ai expliqué la nature et le but de cette étude de recherche, les procédures à entreprendre et les risques éventuels. J'ai offert de répondre à toutes les questions et j'ai répondu à toutes les questions. Je crois que le participant comprend mon explication et qu'il a donné librement son consentement éclairé.

.....

Nom et prénom du directeur de l'étude

.....

Lieu, date et signature du directeur de l'étude



### 5.8.3 Informed consent form for farmers (Spanish version)



## Modelo genérico de consentimiento informado RELACS

### Consentimiento informado

Proyecto Acrónimo: RELACS

Nombre del proyecto: Reemplazo de insumos contenciosos en los sistemas de agricultura orgánica

Fecha de inicio del proyecto 01/05/2018

Fecha de finalización del proyecto 30/04/2022

Página web [www.relacs-project.eu](http://www.relacs-project.eu)

Este proyecto ha recibido financiación del programa de investigación e innovación Horizonte 2020 de la Unión Europea en virtud del acuerdo de subvención nº 773431.

#### 1. Introducción

Usted ha sido invitado a participar en un estudio de investigación. Antes de tomar una decisión sobre si desea participar o no, por favor lea este documento cuidadosamente. Por favor, haga cualquier pregunta que pueda tener para que tenga una comprensión completa del estudio. Este documento de consentimiento informado puede incluir palabras o declaraciones que usted no entiende. Si este es el caso, por favor pídale al investigador de contacto o a cualquier otro miembro del estudio que explique completamente el significado de la palabra o declaración. En todo momento, cumplimos con la legislación vigente de la UE sobre protección de datos personales (Reglamento (UE) 2016/679).

La adquisición de datos en el Proyecto consistirá en encuestas, cuestionarios, entrevistas y grupos de trabajo focales.

Los objetivos específicos de la tarea en la que participa son los siguientes: (incluya aquí los objetivos de la tarea específica <NÚMERO DE TAREA> considerada, ver arriba)

#### 2. Acerca de 'Reemplazo de insumos en los sistemas de agricultura ecológica (RELACS)'

Los agricultores ecológicos se adhieren a altos estándares en la producción de alimentos de calidad al mismo tiempo que protegen el medio ambiente. Sin embargo, la agricultura ecológica necesita mejorar continuamente para seguir cumpliendo sus ambiciosos objetivos. El proyecto "Sustitución de Insumos en los Sistemas de Agricultura Orgánica" (RELACS) fomentará el desarrollo y la adopción de herramientas y tecnologías rentables y seguras desde el punto de vista medioambiental:

- Reducir el uso de cobre y aceite mineral en la protección de las plantas,
- Identificar fuentes sostenibles de nutrición vegetal, y
- Proporcionar soluciones para apoyar la salud y el bienestar del ganado.



Como enfoque sistémico de la agricultura sostenible, la agricultura ecológica tiene por objeto gestionar eficazmente los procesos ecológicos y reducir al mismo tiempo la dependencia de los insumos no agrícolas. Los socios de RELACS evaluarán soluciones para reducir aún más el uso de insumos en toda Europa, así como en los países de la ribera sur del Mediterráneo. Los socios del proyecto proporcionarán apoyo científico para desarrollar normas comunitarias justas y aplicables para mejorar las prácticas actuales de la agricultura ecológica. Las redes de asesoramiento a las explotaciones agrícolas de 11 países europeos se pondrán en contacto con los agricultores para garantizar la difusión y adopción efectivas de las herramientas y técnicas.

RELACS se basa en los resultados de proyectos de investigación anteriores y lleva adelante soluciones muy avanzadas. En el caso de la reducción de cobre, se adoptarán extractos vegetales de *Glycyrrhiza glabra*, *Larix decidua*, así como otro extracto vegetal (SUMB) y un derivado de la leche. En el caso de la reducción de aceites minerales, se aplicará y refinará un extracto vegetal de *Clitoria terneata*, aceite de naranja y una técnica de interrupción del acoplamiento vibratorio. A fin de reducir la dependencia del estiércol de fuentes no orgánicas, se evaluarán tecnologías para reciclar los nutrientes de las corrientes de desechos y se elaborará un instrumento de planificación para hacer coincidir las fuentes de nutrientes disponibles con la necesidad de aportaciones de nutrientes. Las estrategias de control de los endoparásitos de los rumiantes se basarán en plantas de piensos bioactivos y en el agente de control biológico *Duddingtonia flagrans*. La dependencia del uso de antibióticos en las vacas lecheras se reducirá mediante la transferencia de protocolos preventivos de planificación de la salud y el bienestar de los animales y el perfeccionamiento de la experiencia de los agricultores en el uso de aceites esenciales para el control directo de la mastitis. El potencial de reducción del uso de las vitaminas E y B2 sintéticas se explora mediante la revisión y validación de las definiciones de los requisitos de las dietas del ganado y el desarrollo de cepas de levadura productoras de vitaminas libres de OGM.

Los productos y las prácticas de gestión se evaluarán en diferentes condiciones pedoclimáticas y de cultivo en la UE y en terceros países mediterráneos. El proyecto RELACS elaborará hojas de ruta para la aplicación mediante el análisis de las condiciones socioeconómicas necesarias para la aceptación y adopción de alternativas y prestará apoyo científico a las políticas pertinentes de la UE para elaborar normas justas, fiables y aplicables. La rápida difusión y adopción de técnicas a lo largo de la cadena de valor alimentaria se logrará a través de las estructuras de difusión establecidas en 12 países europeos.

El proyecto se desarrolló con la participación de actores de investigación, la agricultura, los servicios de asesoramiento y la industria desde el principio, por lo que se aplicó un enfoque verdaderamente 'multi-actor'. RELACS tiene 29 socios (directos y terceros) de 13 países.

Los socios del proyecto son: el Instituto de Investigación de Agricultura Orgánica (FiBL) de Suiza, la Fondazione Edmund Mach (Italia), la Università degli studi di Trento (Italia), el Julius Kühn-Institut Bundesforschungsinstitut für Kulturpflanzen (Alemania), el IFOAM Organics Europe (Bélgica), la Soil Association (Reino Unido), la Asociación Valor Ecológico, el CAAE - Ecovalia (España), la Federazione Italiana Agricoltura Biológica y Biodinámica (Italia), el Versuchs- und Beratungsring e.V. (Alemania), Fundación para la Agricultura Biológica Bioselena (Bulgaria), Eesti Mahepollumajanduse Sihtasutus (Estonia), Bioforum Vlaanderen (Bélgica), Naturland - Verband für ökologischen Landbau e. V. (Alemania), Økologisk Landsforening (Dinamarca), Scotland's Rural College (Reino Unido), Københavns Universitet (Dinamarca), Universität Hohenheim (Alemania), Mediterranean Agronomic Institute of Bari (Italia), Institut Technique de l'Agriculture Biologique (Francia), Fédération des Eleveurs Et Vétérinaires En Convention (FEVEC, Francia), Institut de l'Élevage (Francia), Institut Technique Interprofessionnel des Plantes à Parfum Médicinales et Aromatiques (Francia), Adage35 (Francia), Thünen-Institut (Alemania), NIBIO - Norsk Instituti for Bioekonomi (Noruega), Okologiai Mezogazdasági Kutatóintézet (Hungría), Trifolio-M GmbH (Alemania), SubstainTec GmbH (Suiza), BiPA NV (Bélgica).

### 3. Duración de las actividades de investigación

Las actividades del proyecto RELACS tendrán una duración de 48 meses entre el 1 de mayo de 2007 y el 30 de abril de 2022, y la tarea específica NÚMERO DE TAREAS aquí considerada está prevista entre D1/M1/Y1 y D2/M2/Y2.



#### 4. Riesgos o inconvenientes

No se prevé ningún riesgo. Sólo se le pide que esté disponible para participar.

#### 5. Beneficios

Aunque es probable que no reciba ningún beneficio personal por su participación en este estudio, recibirá el informe de la encuesta/estudio. Su participación en este estudio contribuirá sustancialmente a la comprensión del <TEMA DE ESTA TAREA>.

#### 6. Privacidad y confidencialidad

Las respuestas que usted dé en los cuestionarios (entrevistas, taller o grupo focal) serán grabadas. La información se almacenará, se procesará durante el análisis de los datos y se mostrará en los informes del proyecto, que serán restringidos al uso dentro del consorcio únicamente.

Los resultados de esta investigación pueden ser publicados en revistas científicas o conferencias y pueden ser utilizados en estudios adicionales. Ningún dato personal será compartido con terceras empresas.

La autorización para el uso y acceso a esta información es válida hasta el final del estudio, a menos que usted decida cancelar su participación en cualquier momento. Si decide retirar su consentimiento y más allá, póngase en contacto con el investigador principal. Su decisión de dar su consentimiento para el uso y la difusión de la información proporcionada por usted es completamente voluntaria. Si usted no da su consentimiento en este formulario o si lo retira en el futuro, no participará en este estudio.

Para saber más sobre la política de privacidad de RELACS, visite <http://www.relacs-project.eu/privacy-policy.html>.

#### 7. Personas de contacto

En el caso de cualquier asunto que le involucre en su papel de participante en este estudio, le invitamos a informar, vía correo electrónico, al Investigador responsable <NOMBRE\_APELLIDOS> ([Name@Organisation.country](mailto:Name@Organisation.country)) o al Coordinador del Proyecto, Dr. Lucius Tamm ([lucius.tamm@fibl.org](mailto:lucius.tamm@fibl.org)).

#### 8. Confirmación

Su participación está sujeta a que se complete de manera independiente este formulario de consentimiento. Si no desea hacerlo, por favor no complete este formulario.

Por la presente declaro:

- Tengo 18 años o más y tengo la capacidad de dar mi consentimiento;
- He sido plenamente informado sobre los objetivos y propósitos del Proyecto RELACS y del estudio específico en el que participo;
- Entiendo que la participación en el proyecto RELACS es voluntaria y, si decido participar, puedo en cualquier momento retirar mi participación;
- He leído este formulario de consentimiento y he tenido la oportunidad de hacer preguntas y todas mis preguntas han sido contestadas satisfactoriamente;
- Acepto que mis datos (recogidos por encuestas, cuestionarios, entrevistas o grupos focales) sean utilizados con fines científicos;
- Soy consciente de que, previa solicitud, los investigadores podrán preservar mi anonimato;



- Soy consciente de que, previa solicitud, los retratos en vídeo se enviarán antes de su publicación y podré comentarlos;
- Entiendo que, sujeto a las limitaciones mencionadas anteriormente, no se repetirá ninguna grabación en ningún foro público ni se pondrá a disposición de ningún otro público que no sean los investigadores del proyecto;
- Acepto libre y voluntariamente formar parte de este estudio de investigación, sin perjuicio de mis derechos legales y éticos;
- Entiendo que puedo negarme a contestar cualquier pregunta y que puedo retirarme en cualquier momento sin penalización;
- La información puede ser compartida entre cualquiera de los otros investigadores y socios que participan en este proyecto;
- He recibido una copia de este acuerdo. Este formulario de consentimiento se realiza de conformidad con las leyes y reglamentos nacionales, europeos e internacionales de protección de datos y con las obligaciones de tratamiento de datos personales. Este documento de consentimiento cumple con las siguientes leyes y regulaciones: Reglamento general de protección de datos (RGPD) de la UE (UE) 2016/679 del Parlamento Europeo y del Consejo, de 27 de abril de 2016, relativo a la protección de las personas físicas en lo que respecta al tratamiento de datos personales y a la libre circulación de estos datos, y por el que se deroga la Directiva 95/46/CE (Reglamento general de protección de datos).

.....

Nombre y apellidos del participante

.....

Lugar, fecha y firma del participante (firma electrónica para la encuesta en línea)

Declaración de responsabilidad del investigador: He explicado la naturaleza y el propósito de este estudio de investigación, los procedimientos a seguir y cualquier riesgo que pueda estar involucrado. Me he ofrecido a responder a cualquier pregunta y he respondido plenamente a las mismas. Creo que el participante entiende mi explicación y ha dado libremente su consentimiento informado.

.....

Nombre y apellidos del director del estudio

.....

Lugar, fecha y firma del director del estudio

## 6. References

AssureWel (2010-2016) A collaborative project led by the RSPCA, Soil Association and University of Bristol, supported by the Tubney Charitable Trust: <http://www.assurewel.org/aboutassurewel.html>

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