

Convention on the Prohibition of the Development, Production
and Stockpiling of Bacteriological (Biological) and Toxin Weapons
and on their Destruction

Confidence Building Measures 2018

Switzerland



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Annual Report by Switzerland in accordance with the final declaration of the Seventh Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction

Covering the year 2017

Table of contents

Declaration Form	Pages 3-4
Confidence Building Measure A, part 1 <i>Exchange of data on research centres and laboratories</i>	Pages 5-11
Confidence Building Measure A, part 2 <i>National biological defence research and development programmes</i>	Page 12-83
Confidence Building Measure A, part 2 (i) <i>National biological defence research and development programmes – Declaration</i>	Page 13
Confidence Building Measure A, part 2 (ii) <i>National biological defence research and development programmes –Description</i>	Pages 14-26
Confidence Building Measure A, part 2 (iii) <i>National biological defence research and development programmes – Facilities</i>	Pages 27-83
Confidence Building Measure B <i>Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins</i>	Pages 84-116
Confidence Building Measure C <i>Encouragement of publication of results and promotion of use of knowledge</i>	Pages 117-118
Confidence Building Measure E <i>Declaration of legislation, regulations and other measures</i>	Pages 119-132
Confidence Building Measure F <i>Declaration of past activities in offensive and/or defensive biological research and development programmes</i>	Pages 133-134
Confidence Building Measure G <i>Declaration of vaccine production facilities</i>	Pages 135-137

Declaration form on “Nothing to Declare” or “Nothing New to Declare” for use in the information exchange

Measure	Nothing to declare	Nothing new to declare	Year of last declaration if nothing new to declare
A, part 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A, part 2 (i)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="2009"/>
A, part 2 (ii)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A, part 2 (iii)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text" value="2001"/>
G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Please mark the appropriate box(es) for each measure with a tick, and fill in the year of last declaration in the last column where applicable.)

Date: 15 April 2018

State Party to the Convention: Switzerland

Date of ratification/accession to the Convention: 4 May 1976

National point of contact: Mr. Sergio Bonin
 Political Affairs Officer BWC/CWC
 Section for Arms Control, Disarmament and Nonproliferation
 Division for Security Policy
 Swiss Federal Department of Foreign Affairs
 Effingerstrasse 27
 CH - 3003 Bern
 Switzerland
 Tel: +41 58 464 57 41
 Fax: +41 58 464 38 39
 Email: sergio.bonin@eda.admin.ch

Active promotion of contacts

The Third Review Conference agreed that States parties continue to implement the following:

"Active promotion of contacts between scientists, other experts and facilities engaged in biological research directly related to the Convention, including exchanges and visits for joint research on a mutually agreed basis."

In order to actively promote professional contacts between scientists, joint research projects and other activities aimed at preventing or reducing the occurrence of ambiguities, doubts and suspicions and at improving international cooperation in the field of peaceful bacteriological (biological) activities, the Seventh Review Conference encouraged States parties to share forward looking information, to the extent possible,

- on planned international conferences, seminars, symposia and similar events dealing with biological research directly related to the Convention, and*
- on other opportunities for exchange of scientists, joint research or other measures to promote contacts between scientists engaged in biological research directly related to the Convention,*

including through the Implementation Support Unit (ISU) within the United Nations Office for Disarmament Affairs.

Exchange of data on research centres and laboratories

At the Third Review Conference it was agreed that States Parties continue to implement the following:

"Exchange of data, including name, location, scope and general description of activities, on research centres and laboratories that meet very high national or international safety standards established for handling, for permitted purposes, biological materials that pose a high individual and community risk or specialize in permitted biological activities directly related to the Convention."

Modalities

The Third Review Conference agreed on the following, later amended by the Seventh Review Conference:

Data should be provided by States Parties on each facility, within their territory or under their jurisdiction or control anywhere, which has any maximum containment laboratories meeting those criteria for such maximum containment laboratories as specified in the latest edition of the WHO¹ Laboratory Biosafety Manual and/or OIE² Terrestrial Manual or other equivalent guidelines adopted by relevant international organisations, such as those designated as biosafety level 4 (BL4, BSL4 or P4) or equivalent standards.

States Parties that do not possess a facility meeting criteria for such maximum containment should continue to Form A, part 1 (ii).

¹ World Health Organization

² World Organization for Animal Health

Exchange of data on research centres and laboratories

As of 1 January 2018, the following facilities, within the territory of Switzerland or under Swiss jurisdiction or control anywhere, were within the scope of Form A, part 1:

- Three operational BSL4 laboratories, two of them holding licenses limited to diagnostic purposes;
- One operational BSL3Ag laboratory.

Exchange of data on research centres and laboratories³

Name of facility ⁴	Labor Spiez (Spiez Laboratory)
Affiliation	Bundesamt für Bevölkerungsschutz, Eidgenössisches Departement für Verteidigung, Bevölkerungsschutz und Sport (Federal Office for Civil Protection, Federal Department of Defence, Civil Protection and Sports)

This facility is declared in accordance with Form A, part 2 (iii) [➤ pages 28 to 36].

Of note, the BSL4 unit is operational and holds a license as follows:

- "Development of methods to detect and analyze viral pathogens of risk group 4 (clinical samples, environmental samples, including samples suspect of bioterrorism origin) as well as evaluation of antiviral substances, neutralizing antibodies and decontamination solutions".

³ The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.

⁴ For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".

Exchange of data on research centres and laboratories³

Name of facility ⁴	Centre National de Référence pour les Infections Virales Emergentes (National Reference Center for Emerging Viral Infections)
Affiliation	Laboratoire de Virologie, Hôpitaux Universitaires de Genève (Virological Laboratory, University Hospitals of Geneva)

This facility is declared in accordance with Form A, part 2 (iii) [► pages 38 to 41].

Of note, the BSL4 unit is operational and holds a license for diagnostic purposes as follows:

- "Detection of viruses in clinical samples by molecular and/or serological methods".

³ The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.

⁴ For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".

Exchange of data on research centres and laboratories³

Name of facility ⁴	Institut für Medizinische Virologie (Institute of Medical Virology)
Affiliation	Medizinische Fakultät, Universität Zürich (Faculty of Medicine, University of Zurich)

This facility is declared in accordance with Form A, part 2 (iii) [► pages 72 to 75].

Of note, the BSL4 unit is operational and holds a license for diagnostic purposes as follows:

- "Inactivation of environmental samples and of potentially highly-pathogenic viruses for diagnostic purposes within the framework of the Regional Laboratory Network".

³ The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.

⁴ For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".

Exchange of data on research centres and laboratories³

Name of facility ⁴	Institut für Virologie und Immunologie (Institute of Virology and Immunology)
Affiliation	Bundesamt für Lebensmittelsicherheit und Veterinärwesen, Eidgenössisches Departement des Innern (Federal Food Safety and Veterinary Office, Federal Department of Home Affairs)

This facility is declared in accordance with Form A, part 2 (iii) [➤ pages 42 to 48].

Of note, the maximum containment level is BSL3Ag. BSL3Ag facilities have special features not comparable to standard BSL3 or BSL4. In this particular case, the shell is considered as BSL4, whereas inside the containment area most of the space is BSL1 and BSL2 with a small BSL3 area. Licenses are as follows:

- "Quality controls of immuno-biological products for use in applications of veterinary medicine";
- "Establishment of a cell-based rapid test to determine protection provided by vaccination against foot-and-mouth disease virus";
- "Validation of decontamination by H₂O₂";
- "Diagnostics of viral pathogens causing highly contagious animal diseases".

³ The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.

⁴ For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".

Exchange of data on research centres and laboratories

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents⁶ on a State Party's territory:

Biosafety level 3⁷ n/a

Biosafety level 2⁸ (if applicable) n/a

Any additional relevant information as appropriate:

n/a

⁶ Microorganisms pathogenic to humans and/or animals

⁷ In accordance with the latest edition of the WHO Laboratory Biosafety Manual and/or the OIE Terrestrial Manual or other equivalent internationally accepted guidelines.

⁸ In accordance with the latest edition of the WHO Laboratory Biosafety Manual and/or the OIE Terrestrial Manual or other equivalent internationally accepted guidelines.

Exchange of information on national biological defence research and development programmes

At the Third Review Conference it was agreed that States Parties are to implement the following:

In the interest of increasing the transparency of national research and development programmes on biological defence, the States Parties will declare whether or not they conduct such programmes. States Parties agreed to provide, annually, detailed information on their biological defence research and development programmes including summaries of the objectives and costs of effort performed by contractors and in other facilities. If no biological defence research and development programme is being conducted, a null report will be provided.

States Parties will make declarations in accordance with the attached forms, which require the following information:

- (1) The objective and summary of the research and development activities under way indicating whether work is conducted in the following areas: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research;*
- (2) Whether contractor or other non-defence facilities are utilized and the total funding provided to that portion of the programme;*
- (3) The organizational structure of the programme and its reporting relationships; and*
- (4) The following information concerning the defence and other governmental facilities in which the biological defence research and development programme is concentrated;*
 - (a) location;*
 - (b) the floor areas (sqM) of the facilities including that dedicated to each of BL2, BL3 and BL4 level laboratories;*
 - (c) the total number of staff employed, including those contracted full time for more than six months;*
 - (d) numbers of staff reported in (c) by the following categories: civilian, military, scientists, technicians, engineers, support and administrative staff;*
 - (e) a list of the scientific disciplines of the scientific/engineering staff;*
 - (f) the source and funding levels in the following three areas: research, development, and test and evaluation; and*
 - (g) the policy regarding publication and a list of publicly-available papers and reports.*

National biological defence research and development programmes – Declaration

Are there any national programmes to conduct biological defence research and development within the territory of the State Party, under its jurisdiction or control anywhere? Activities of such programmes would include prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research.

Yes

If the answer is Yes, complete Form A, part 2 (ii) which will provide a description of each programme.

National biological defence research and development programmes – Description

National Biological Defense Program

1. *State the objectives and funding of each programme and summarize the principal research and development activities conducted in the programme. Areas to be addressed shall include: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research.*

The objective is to establish national biological defense proficiency by developing and improving precise and accurate tests for the rapid diagnosis as well as for identification, including characterization, of different biological agents and toxins using various methods. Spiez Laboratory is assigned to fulfill this task and to close any gaps to reach national biological defense excellence. To improve the national biological defense capabilities of Switzerland, Spiez Laboratory has funds available to run a dedicated program with the goal of added research and development mainly benefitting detection, diagnostic and identification techniques. A major part of the program is conducted under contract with national and international industries, academic institutions as well as domestic and foreign governmental agencies, as detailed in paragraph 5 below.

Spiez Laboratory is part of the Federal Office for Civil Protection FOCP within the Federal Department of Defence, Civil Protection and Sports DDPS of the Swiss Confederation. Spiez Laboratory is the Swiss center of expertise in protection against nuclear, biological and chemical (NBC) threats and hazards. Besides delivering its expertise to relevant stakeholders, the Biology Division of Spiez Laboratory is concerned with the detection of biological agents and toxins, as well as supports military biological protection units. The Biology Division has three main branches that are engaged in the fields of virology, bacteriology and toxinology, respectively.

Spiez Laboratory possesses a high containment facility that allows for the safe handling of biological agents of risk groups 3 and 4. It is the only BSL4 high containment facility in Switzerland holding a license which is not limited to diagnostic purposes. It serves towards the comprehensive detection and identification of human pathogens. This enables Spiez Laboratory to act in the Regional Laboratory Network (➤ pages 20 to 26) as both a Regional Competence Center and as a National Reference Center / National Reference Laboratory having all necessary capabilities and capacities at hand.

For additional information and more on the vision of a world without weapons of mass destruction please visit: <https://www.labor-spiez.ch/en/index.htm>

2. *State the total funding for each programme and its source.*

Swiss Confederation, Federal Department of Defence, Civil Protection and Sports DDPS,
Federal Office for Civil Protection FOCP:

CHF 5'000'000.- per year

3. *Are aspects of these programmes conducted under contract with industry, academic institutions, or in other non-defence facilities?*

Yes

4. *If yes, what proportion of the total funds for each programme is expended in these contracted or other facilities?*

10 %

5. *Summarize the objectives and research areas of each programme performed by contractors and in other facilities with the funds identified under paragraph 4.*

All contracted research and development of the program is supervised by Spiez Laboratory. Please also refer to paragraph 1 above for additional details. The contractors part of the program in 2017 were as follows:

- Eidgenössische Technische Hochschule Zürich – ETHZ
Functional Genomics Center Zurich – FGCZ
Winterthurerstrasse 190
CH-8057 Zürich
Switzerland
Project title: „Next Generation Sequencing“
- Eidgenössische Technische Hochschule Zürich – ETHZ
Center for Security Studies – CSS
Haldeneggsteig 4, IFW
CH-8092 Zürich
Switzerland
Project title: „Analysis of trends in science and policy“

- Medizinische Hochschule Hannover – MHH
Institut für Toxikologie
Carl-Neuberg-Strasse 1
DE-30625 Hannover
Germany
Project title: „Development of recombinant botulinum neurotoxins and assessing proteolytic stability and transepithelial transport”
- Robert Koch Institut – RKI
Zentrum für Biologische Sicherheit
Nordufer 20
DE-13353 Berlin
Germany
Project title: „Analysis of Staphylococcus enterotoxins in food”
- Scuola Universitaria Professionale della Svizzera Italiana – SUPSI
Laboratorio Microbiologia Applicata – LMA
Via Mirasole 22a
CH-6501 Bellinzona
Switzerland
Project title: „Optimization of methods for the identification of viruses in vectors”
- Universität Bern – UniBE
Institut für Infektionskrankheiten – IFIK
Friedbühlstrasse 51
CH-3010 Bern
Switzerland
Project title: „Stability and detection of toxins”
Project title: „Next Generation Sequencing”
- Universität Bern – UniBE
Interfaculty Bioinformatics Unit – IBU
Baltzerstrasse 6
CH-3012 Bern
Switzerland
Project title: „Comparative genome-based analysis of Naegleria”

- Université de Lausanne / Centre Hospitalier Universitaire Vaudois – Unil / CHUV
Institut de microbiologie – IMUL
Rue du Bugnon 48
CH-1011 Lausanne
Switzerland
Project title: „Identification and evaluation of antiviral substances against Hantavirus infections”

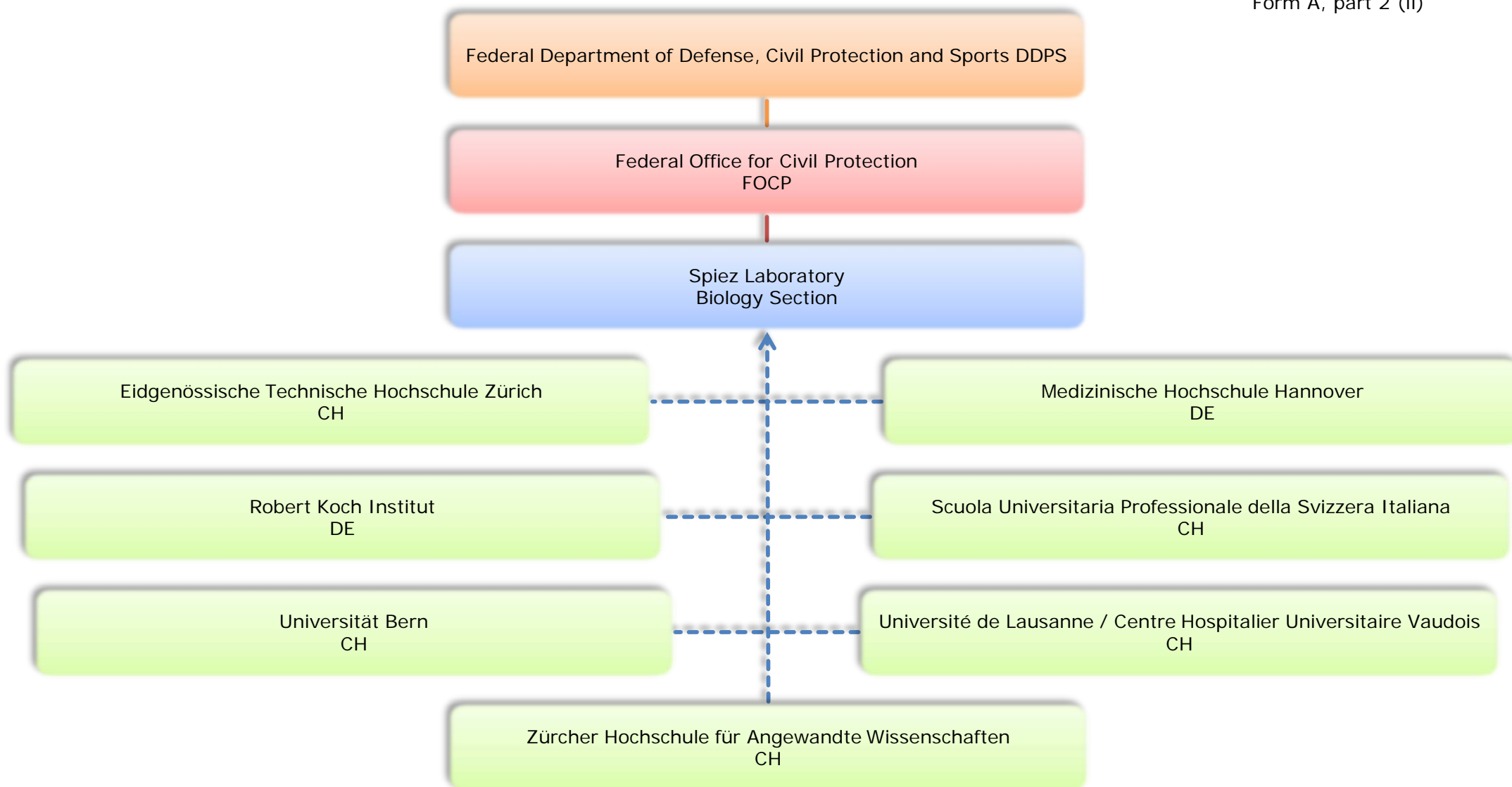
- Zürcher Hochschule für Angewandte Wissenschaften – ZHAW
Institut für Chemie und Biologische Chemie – ICBC
Einsiedlerstrasse 31
CH-8820 Wädenswil
Switzerland
Project title: „Detection of proteinaceous toxins”

6. *Provide a diagram of the organizational structure of each programme and the reporting relationships (include individual facilities participating in the programme).*

Please refer to the diagram on the following page.

Switzerland

Form A, part 2 (ii)



7. *Provide a declaration in accordance with Form A, part 2 (iii) for each facility, both governmental and non-governmental, which has a substantial proportion of its resources devoted to each national biological defence research and development programme, within the territory of the reporting State, or under its jurisdiction or control anywhere.*

Please refer to Form A, part 2 (iii) [➤ pages 28 to 36].

National biological defence research and development programmes – Description

Regional Laboratory Network

1. *State the objectives and funding of each programme and summarize the principal research and development activities conducted in the programme. Areas to be addressed shall include: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research.*

The objective is the establishment and maintenance of capability and capacity for the rapid laboratory-based identification of pathogens in case of a biological emergency, whether it be of natural or accidental origin or due to deliberate release. This forms the basis for any adequate countermeasures that need to be planned and implemented to ensure the protection of the population. The consequent integration of state of the art detection and diagnostic techniques as well as their constant refinement and improvement is therefore indispensable for a holistic biological emergency concept.

The implemented structure is a decentralized network of Regional Competence Centers and National Reference Centers, all of which have been mandated by the Federal Office of Public Health. This network benefits from already existing infrastructure. The network is embedded in the Swiss CBRN concept and is coordinated by the Regional Laboratory Coordination Committee that consists of federal, cantonal and scientific experts. There is a total of three National Reference Centers and six Regional Competence Centers called Regional Laboratories. The task for Regional Laboratories is the rapid identification of pathogens, whereas National Reference Centers are qualified for confirmatory analysis. All facilities pursue civil duties and are put on assignments of the Regional Laboratory Network in the event of biological emergencies only. All cantons are part of the network either as a host canton of a Regional Laboratory (underlined) or as an affiliated canton, as shown in the table below.

Regional Laboratory	Host cantons and affiliated cantons
West	FR, <u>GE</u> , NE, <u>VD</u> , VS
West Central	<u>BE</u> , JU
East Central	<u>LU</u> , NW, OW, SZ, UR
East	AI, AR, GL, GR, SG, SH, TG, ZG, <u>ZH</u> (+FL)
North	AG, BL, <u>BS</u> , SO
South	<u>TI</u>

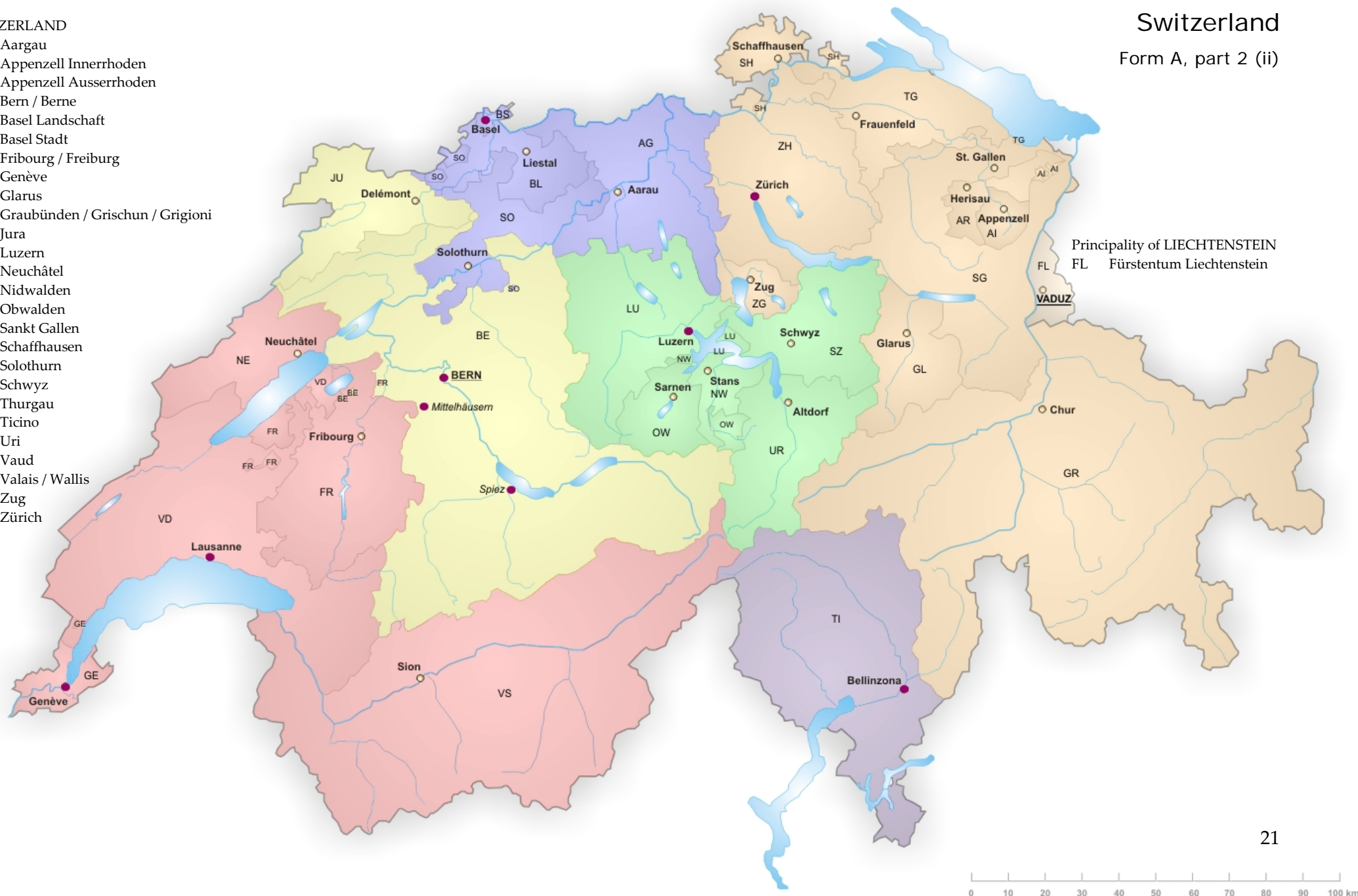
Of note, the two cantons of Genève and Vaud share the authority over the Regional Laboratory West. The Principality of Liechtenstein (FL) participates in the Regional Laboratory East. For an explanation of abbreviations, please refer to the comprehensive map on the next page.

SWITZERLAND

AG Aargau
 AI Appenzell Innerrhoden
 AR Appenzell Ausserrhoden
 BE Bern / Berne
 BL Basel Landschaft
 BS Basel Stadt
 FR Fribourg / Freiburg
 GE Genève
 GL Glarus
 GR Graubünden / Grischun / Grigioni
 JU Jura
 LU Luzern
 NE Neuchâtel
 NW Nidwalden
 OW Obwalden
 SG Sankt Gallen
 SH Schaffhausen
 SO Solothurn
 SZ Schwyz
 TG Thurgau
 TI Ticino
 UR Uri
 VD Vaud
 VS Valais / Wallis
 ZG Zug
 ZH Zürich

Switzerland

Form A, part 2 (ii)



The network consists of the following facilities that are described on Form A, part 2 (iii) in more detail:

Function	Authority	Facility
National Reference Center	GDK*	Labor Spiez
National Reference Center	GDK*	Centre National de Référence pour les Infections Virales Emergentes
National Reference Center	GDK*	Institut für Virologie und Immunologie
Regional Laboratory West	Canton of Genève	Laboratoire de Bactériologie
	Canton of Vaud	Centre National de Référence pour les Infections Virales Emergentes Laboratoires de Diagnostic de l'Institut de Microbiologie
Regional Laboratory West Central	Canton of Bern	Labor Spiez
Regional Laboratory East Central	Canton of Luzern	Institut für Medizinische Mikrobiologie
Regional Laboratory East	Canton of Zürich	Institut für Medizinische Mikrobiologie
		Institut für Medizinische Virologie
Regional Laboratory North	Canton of Basel-Stadt	Kantonales Laboratorium Basel-Stadt
Regional Laboratory South	Canton of Ticino	Laboratorio Microbiologia Applicata

* Swiss Conference of Cantonal Ministers of Public Health

2. *State the total funding for each programme and its source.*

All personnel involved in activities in relation to the Regional Laboratory Network is tasked with other civil duties. Many of these other activities, such as development of related methods, sample preparation and processing, training, etc., although at least indirectly of benefit to the activities in relation to the Regional Laboratory Network, remain unaccounted for and are not singled out as being of such nature. Furthermore, the whole network relies on existing infrastructures in use for other civil purposes. Due to these facts it is not possible to sort out personnel costs, cost of materials and consumables, as well as dedicated infrastructure costs for the program, however, it is possible to name the funding sources as follows:

- Swiss Confederation, Federal Department of Home Affairs FDHA
- All twenty-six cantons of Switzerland
- Principality of Liechtenstein

3. *Are aspects of these programmes conducted under contract with industry, academic institutions, or in other non-defence facilities?*

No

4. *If yes, what proportion of the total funds for each programme is expended in these contracted or other facilities?*

n/a

5. *Summarize the objectives and research areas of each programme performed by contractors and in other facilities with the funds identified under paragraph 4.*

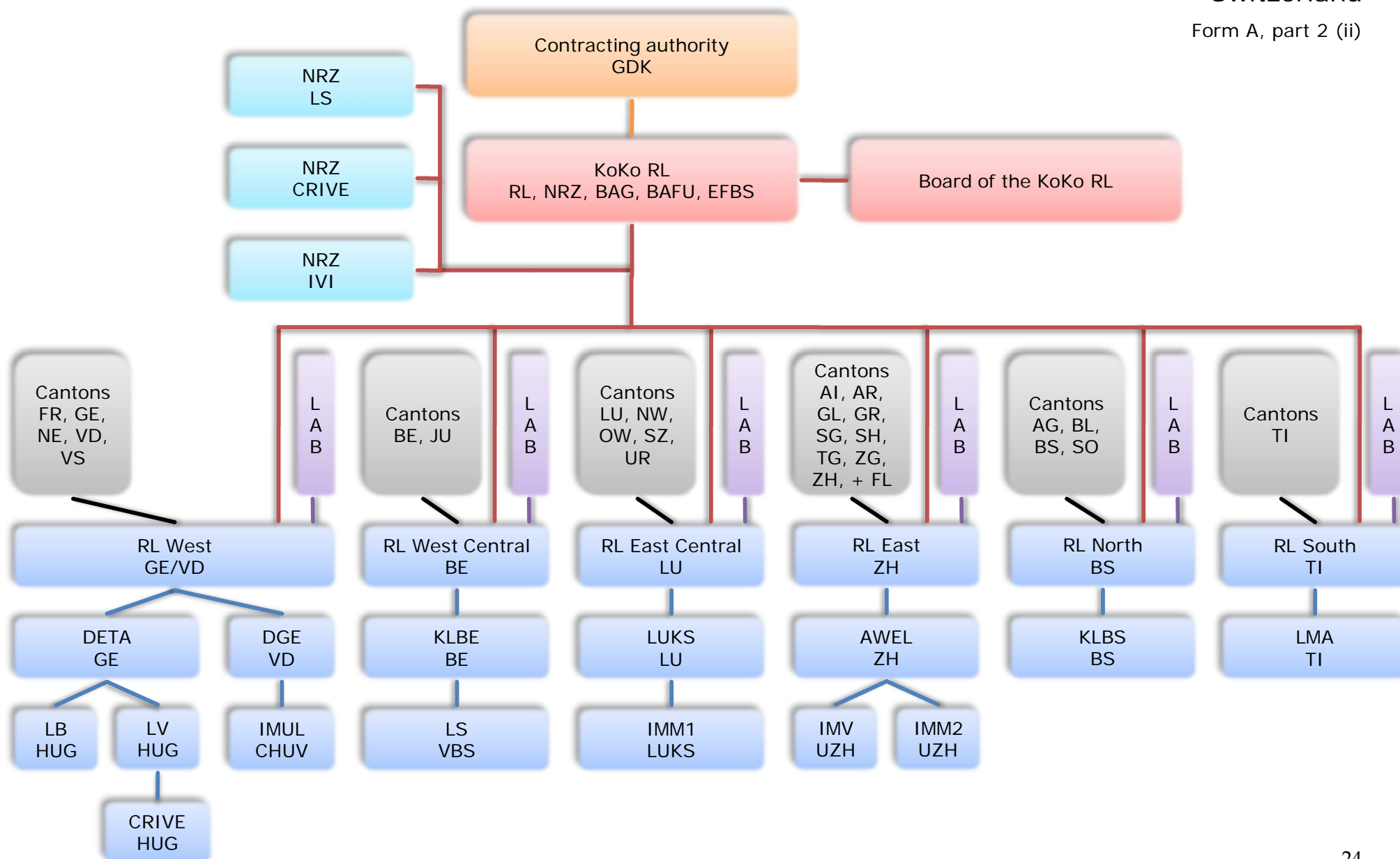
n/a

6. *Provide a diagram of the organizational structure of each programme and the reporting relationships (include individual facilities participating in the programme).*

Please refer to the diagram on the next page.

Switzerland

Form A, part 2 (ii)



Abbreviations used in the diagram on the previous page:

AWEL:	Office for Waste, Water, Energy and Air	IVI:	Institute of Virology and Immunology
BAFU:	Federal Office for the Environment	KLBE:	Cantonal Laboratory of Berne
BAG:	Federal Office of Public Health	KLBS:	Cantonal Laboratory of Basel-Stadt
Cantons:	Please refer to the map in paragraph 1 above	KoKo:	Coordination Committee
CHUV:	University Hospital Center of Vaud	LAB:	Laboratory Advisory Board
CRIVE:	National Reference Center for Emerging Viral Infections	LB:	Bacteriological Laboratory
DETA:	Department for Environment, Transport and Agriculture	LMA:	Laboratory of Applied Microbiology
DGE:	Directorate-General for Environment	LS:	Spiez Laboratory
EFBS:	Swiss Expert Committee for Biosafety	LUKS:	Cantonal Hospital of Luzern
GDK:	Swiss Conference of Cantonal Ministers of Public Health	LV:	Virological Laboratory
HUG:	University Hospitals of Geneva	NRZ:	National Reference Center
IMM1:	Department of Medical Microbiology	RL:	Regional Laboratory
IMM2:	Institute of Medical Microbiology	UZH:	University of Zurich
IMUL:	Diagnostic Laboratories of the Institute of Microbiology	VBS:	Federal Department of Defense, Civil Protection and Sports
IMV:	Institute of Medical Virology		

7. *Provide a declaration in accordance with Form A, part 2 (iii) for each facility, both governmental and non-governmental, which has a substantial proportion of its resources devoted to each national biological defence research and development programme, within the territory of the reporting State, or under its jurisdiction or control anywhere.*

Please refer to Form A, part 2 (iii) [➤ pages 37 to 83].

Information on the Regional Laboratory Network can also be found online (website in French):

<https://www.bag.admin.ch/bag/fr/home/themen/mensch-gesundheit/uebertragbare-krankheiten/labordiagnostik-infektionskrankheiten/regionallabornetzwerk.html>

National biological defence research and development programmes – Facilities

Complete a form for each facility declared in accordance with paragraph 7 in Form A, part 2 (ii).

In shared facilities, provide the following information for the biological defence research and development portion only.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Schweizerisches Fachinstitut für ABC-Schutz (Swiss Center of Expertise in NBC Protection)
Name of facility	Labor Spiez (Spiez Laboratory)
Affiliation	Bundesamt für Bevölkerungsschutz, Eidgenössisches Departement für Verteidigung, Bevölkerungsschutz und Sport (Federal Office for Civil Protection, Federal Department of Defence, Civil Protection and Sports)

2. *Where is it located (include both address and geographical location)?*

Location	Austrasse CH-3700 Spiez
Geographical location	N 46° 41' 26.32", E 7° 38' 39.41"

3. *Floor area of laboratory areas by containment level:*

BSL2	483 m ²
BSL3	126 m ²
BSL3Ag	0 m ²
BSL4	118 m ²
Total	727 m ²

Of note, further information on the facility is presented on pages 34 to 36.

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

19

Of note, as of 1 January 2018 the total number of personnel at Spiez Laboratory amounts to 99, 16 of which in the Biology Division and 3 of which in the Logistics, Quality & Security Section dealing with technical, safety and security issues related to the Biology Division.

(ii) *Division of personnel:*

Military	0
Civilian	19

(iii) *Division of personnel by category:*

Scientists	10
Engineers	0
Technicians	9
Administrative and support staff	0

(iv) *List the scientific disciplines represented in the scientific/engineering staff.*

Virology, bacteriology, toxinology, biosafety and biosecurity

(v) *Are contractor staff working in the facility? If so, provide an approximate number.*

9

(vi) *What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?*

Swiss Confederation (Federal Department of Defence, Civil Protection and Sports)

(vii) *What are the funding levels for the following programme areas:*

Total	CHF 5'000'000.-
Research	15 %
Development	10 %
Test & Evaluation	5 %
Analysis / Diagnosis	15 %
Education & Training	5 %
Other activities	50 % (costs for operation, maintenance and amortization)

(viii) *Briefly describe the publication policy of the facility:*

Publication in open literature

(ix) *Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)*

List of publicly available papers and reports published in 2017:

Nisii C, Vincenti D, Fusco FM, Schmidt-Chanasit J, Carbonnelle C, Raoul H, Eickmann M, Hewson R, Brave A, Nuncio S, Sanchez-Seco MP, Palyi B, Kis Z, Zange S, Nitsche A, Kurth A, Strasser M, Capobianchi MR, Ozin A, Guglielmetti P, Menel-Lemos C, Jacob D, Grunow R, Ippolito G, Di Caro A. The contribution of the European high containment laboratories during the 2014-2015 Ebola Virus Disease emergency. Clin Microbiol Infect. 2017 Feb;23(2):58-60. doi: 10.1016/j.cmi.2016.07.003. Epub 2016 Jul 9.

Kindler E, Gil-Cruz C, Spanier J, Li Y, Wilhelm J, Rabouw HH, Züst R, Hwang M, V'kovski P, Stalder H, Marti S, Habjan M, Cervantes-Barragan L, Elliot R, Karl N, Gaughan C, van Kuppeveld FJ, Silverman RH, Keller M, Ludewig B, Bergmann CC, Ziebuhr J, Weiss SR, Kalinke U, Thiel V. Early endonuclease-mediated evasion of RNA sensing ensures efficient coronavirus replication. PLoS Pathog. 2017 Feb 3;13(2):e1006195. doi: 10.1371/journal.ppat.1006195. eCollection 2017 Feb.

Jenkinson SP, Grandgirard D, Heidemann M, Tschertter A, Avondet MA, Leib SL. Embryonic Stem Cell-Derived Neurons Grown on Multi-Electrode Arrays as a Novel In vitro Bioassay for the Detection of Clostridium botulinum Neurotoxins. Front Pharmacol. 2017 Feb 23;8:73. doi: 10.3389/fphar.2017.00073. eCollection 2017.

Sendi P, Hirzel C, Pfister S, Ackermann-Gäumann R, Grandgirard D, Hewer E, Nirkko AC. Fatal Outcome of European Tick-borne Encephalitis after Vaccine Failure. Front Neurol. 2017 Apr 3;8:119. doi: 10.3389/fneur.2017.00119. eCollection 2017.

Schneeberger PHH, Pothier JF, Bühlmann A, Duffy B, Beuret C, Utzinger J, Frey JE. Development and evaluation of a bioinformatics approach for designing molecular assays for viral detection. *PLoS One*. 2017 May 25;12(5):e0178195. doi: 10.1371/journal.pone.0178195. eCollection 2017.

Cimini E, Viola D, Cabeza-Cabrero M, Romanelli A, Tumino N, Sacchi A, Bordoni V, Casetti R, Turchi F, Martini F, Bore JA, Koundouno FR, Duraffour S, Michel J, Holm T, Zekeng EG, Cowley L, Garcia Dorival I, Doerrbecker J, Hetzelt N, Baum JHJ, Portmann J, Wölfel R, Gabriel M, Miranda O, Díaz G, Díaz JE, Fleites YA, Piñeiro CA, Castro CM, Koivogui L, Magassouba N, Diallo B, Ruibal P, Oestereich L, Wozniak DM, Lüdtke A, Becker-Ziaja B, Capobianchi MR, Ippolito G, Carroll MW, Günther S, Di Caro A, Muñoz-Fontela C, Agrati C. Different features of Vδ2 T and NK cells in fatal and non-fatal human Ebola infections. *PLoS Negl Trop Dis*. 2017 May 30;11(5):e0005645. doi: 10.1371/journal.pntd.0005645. eCollection 2017 May.

Franzoi M, van Heuvel Y, Thomann S, Schürch N, Kallio PT, Venier P, Essig A. Structural Insights into the Mode of Action of the Peptide Antibiotic Copsin. *Biochemistry*. 2017 Sep 19;56(37):4992-5001. doi: 10.1021/acs.biochem.7b00697. Epub 2017 Sep 6.

Bibert S, Bratschi MW, Aboagye SY, Collinet E, Scherr N, Yeboah-Manu D, Beuret C, Pluschke G, Bochud PY. Susceptibility to *Mycobacterium ulcerans* Disease (Buruli ulcer) Is Associated with IFNG and iNOS Gene Polymorphisms. *Front Microbiol*. 2017 Oct 4;8:1903. doi: 10.3389/fmicb.2017.01903. eCollection 2017.

Greub G, Lienhard R, Ackermann R. Le Centre national de référence pour les maladies transmises par les tiques (CNRT/NRZK). *Pipette – Swiss Laboratory Medicine*. 2017 Oct;5:8-9.

Rothemberger S, Engler O, Kunz S. Neue Strategien zur Entwicklung antiviraler Medikamente gegen Hantaviren. *Pipette – Swiss Laboratory Medicine*. 2017 Oct;5:8-9.

Oechslin CP, Heutschi D, Lenz N, Tischhauser W, Péter O, Rais O, Beuret CM, Leib SL, Bankoul S, Ackermann-Gäumann R. Prevalence of tick-borne pathogens in questing *Ixodes ricinus* ticks in urban and suburban areas of Switzerland. *Parasit Vectors*. 2017 Nov 9;10(1):558. doi: 10.1186/s13071-017-2500-2.

Invernizzi C. CRISPR and the Hype Cycle. *Defence Future Technologies – What we see on the horizon* (Publisher: armasuisse W+T). 2017 Nov 15:-;81-83.

Danza F, Storelli N, Roman S, Lüdin S, Tonolla M. Dynamic cellular complexity of anoxygenic phototrophic sulfur bacteria in the chemocline of meromictic Lake Cadagno. *PLoS One*. 2017 Dec 15;12(12):e0189510. doi: 10.1371/journal.pone.0189510. eCollection 2017.

5. Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms⁹ and/or toxins studied, as well as outdoor studies of biological aerosols.

Spiez Laboratory, which is part of the Federal Department for Civil Protection, is the Swiss Center of Expertise in NBC Protection. Its Biology Division has a range of activities including research, development, test & evaluation, training, as well as diagnosis in the fields of virology, bacteriology, toxinology and biosafety. The tasks include analysis of unknown samples, diagnostics and identification of potential biological warfare and bioterror agents, food and water analysis for the Swiss Armed Forces, and research & development in coordination with contractors. Spiez Laboratory deals with many different biological agents and toxins known to be pathogenic for humans.

Spiez Laboratory is also a National Reference Center mandated by the Swiss Federal Office of Public Health and a National Reference Laboratory mandated by the Swiss Federal Food Safety and Veterinary Office as follows:

- National Reference Center for Anthrax
 - o *Bacillus anthracis* (anthrax)
 - o *Francisella tularensis* (tularemia)
 - o *Yersinia pestis* (plague)
 - o *Brucella spp.* (brucellosis)
 - o *Burkholderia pseudomallei* (melioidosis)
 - o *Clostridium botulinum* (botulism)
 - o other bacterial pathogens according to requirements of the national coordination committee of the Regional Laboratory Network
- National Reference Center for Tick-Transmitted Diseases
 - o Tick-borne encephalitis virus (TBE)
 - o *Coxiella burnetii* (Q fever)
 - o *Borrelia burgdorferi* s.l. (Lyme disease)
 - o Other rare / emerging tick-transmitted pathogens
- National Reference Laboratory for Saxitoxin
 - o Saxitoxin
 - o dc-Saxitoxin
- National Reference Laboratory for Staphylococcus enterotoxins
 - o Staphylococcus enterotoxin B
 - o other Staphylococcus enterotoxins

In addition, Spiez Laboratory supports the National Reference Center for Emerging Viral Infections responsible for the detection of emerging and reemerging viruses of all biosafety levels, especially hemorrhagic fever viruses and variola virus.

⁹ Including viruses and prions.

Switzerland

Form A, part 2 (iii)

Spiez Laboratory's Biology Division holds an accreditation by the Swiss Accreditation Service as "Testing laboratory for the detection of biological agents" (STS 0054) according to the international standard ISO/IEC 17025:2005.

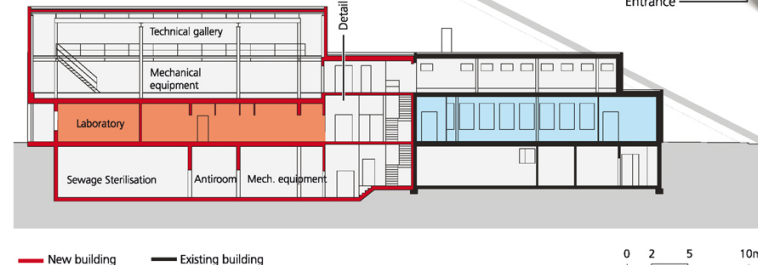
For additional information please refer to Form A, part 2 (ii) [➤ pages 14 to 26] and visit: <http://www.labor-spiez.ch/enindex.htm>

The Security Lab

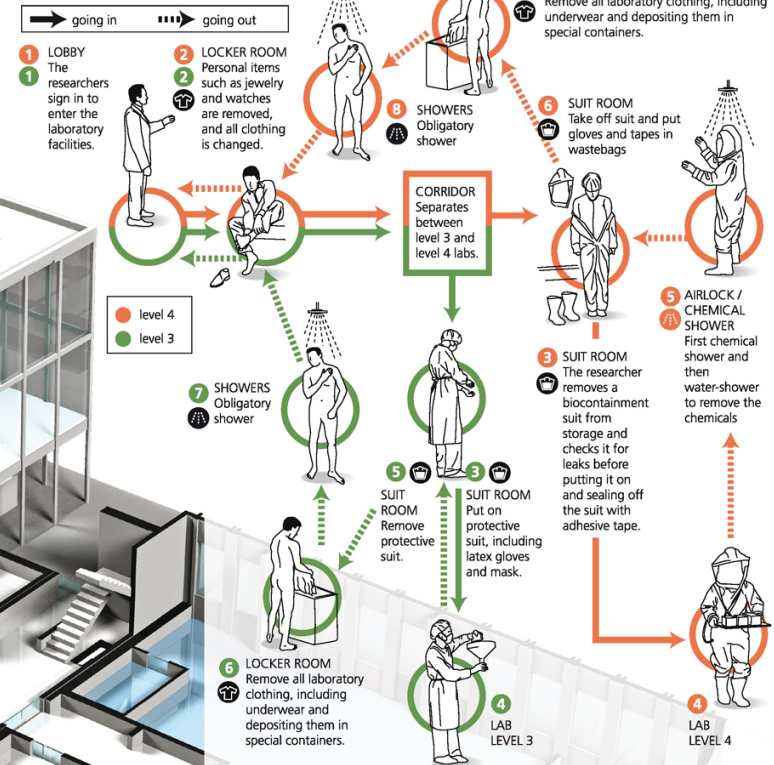
The new building will house facilities for level-3 and level-4 laboratories. For each level separate security-measures are put into place.

- Lab level 4
- Lab level 3
- Lab level 2

- Material Air Lock
- Chemical Showers
- Showers
- Suit Room
- Locker Room



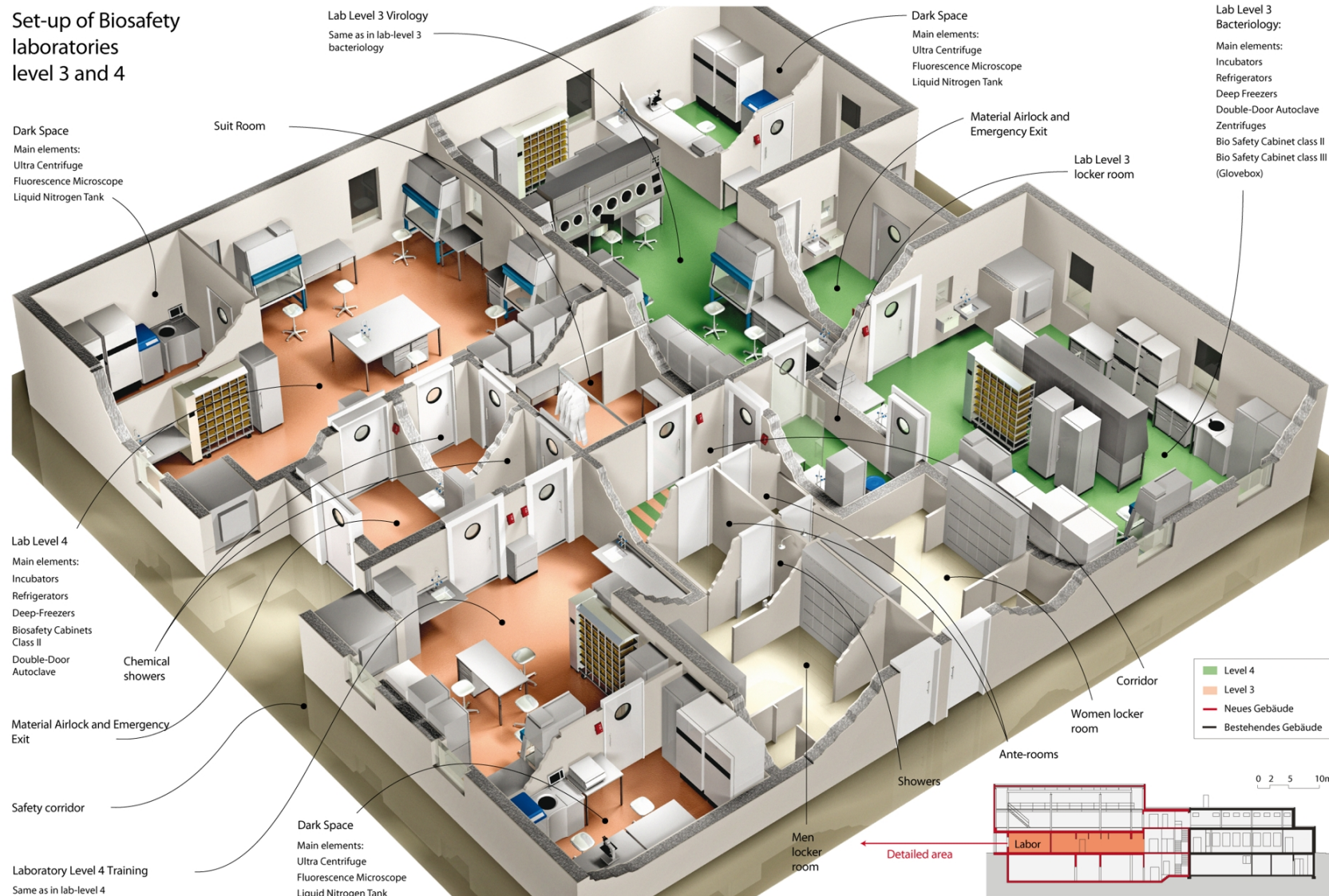
Security measures



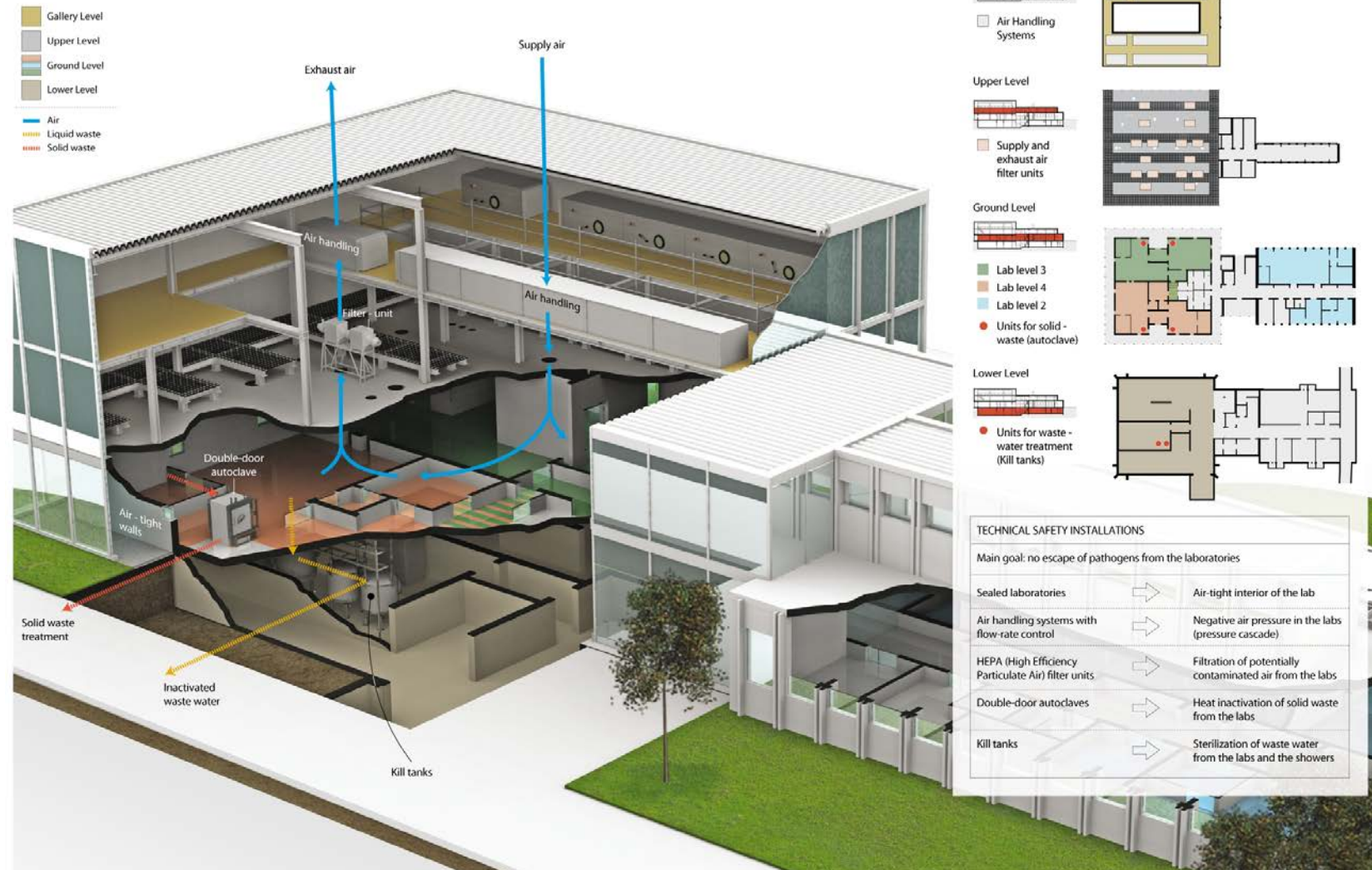
Switzerland

Form A, part 2 (iii)

Set-up of Biosafety laboratories level 3 and 4



High Containment Laboratory - Technical safety installations



National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Nationales Referenzzentrum (National Reference Center)
Name of facility	Labor Spiez (Spiez Laboratory)
Affiliation	Bundesamt für Bevölkerungsschutz, Eidgenössisches Departement für Verteidigung, Bevölkerungsschutz und Sport (Federal Office for Civil Protection, Federal Department of Defence, Civil Protection and Sports)

This facility is declared in accordance with Form A, part 2 (iii) [➤ pages 28 to 36].

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Centre National de Référence (National Reference Center)
Name of facility	Centre National de Référence pour les Infections Virales Emergentes (National Reference Center for Emerging Viral Infections)
Affiliation	Laboratoire de Virologie, Hôpitaux Universitaires de Genève (Virology Laboratory, University Hospitals of Geneva)

2. *Where is it located (include both address and geographical location)?*

Location	Rue Gabrielle Perret-Gentil 4 CH-1205 Genève
Geographical location	N 46° 11' 37.20", E 6° 8' 59.92"

3. *Floor area of laboratory areas by containment level:*

BSL2	29 m ²
BSL3	39 m ²
BSL3Ag	0 m ²
BSL4	36 m ²
Total	104 m ²

Of note, the BSL4 unit is approved for diagnostic purposes only.

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

(ii) *Division of personnel:*

Military	0
Civilian	5

(iii) *Division of personnel by category:*

Scientists	3
Engineers	0
Technicians	2
Administrative and support staff	0

(iv) *List the scientific disciplines represented in the scientific/engineering staff.*

Medicine, biology, microbiology, molecular biology, viral genetics, infectious diseases

(v) *Are contractor staff working in the facility? If so, provide an approximate number.*

0

(vi) *What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?*

Swiss Confederation (Federal Department of Home Affairs)

(vii) *What are the funding levels for the following programme areas:*

Research	2 %
Development	55 %
Test & Evaluation	15 %
Analysis / Diagnosis	20 %
Education & Training	1 %
Other activities	7 % (costs for maintenance and administration)

(viii) *Briefly describe the publication policy of the facility:*

Publication in open literature

(ix) *Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)*

List of publicly available papers and reports published in 2017:

Cagno V, Andreozzi P, D'Alicarnasso M, Jacob Silva P, Mueller M, Galloux M, Le Goffic R, Jones ST, Vallino M, Hodek J, Weber J, Sen S, Janeček ER, Bekdemir A, Sanavio B, Martinelli C, Donalisio M, Rameix Welti MA, Eleouet JF, Han Y, Kaiser L, Vukovic L, Tapparel C, Král P, Krol S, Lembo D, Stellacci F. Broad-spectrum non-toxic antiviral nanoparticles with a virucidal inhibition mechanism. *Nat Mater*. 2018 Feb;17(2):195-203. doi: 10.1038/nmat5053. Epub 2017 Dec 18.

Satta N, Pagano S, Montecucco F, Gencer B; Swiss HIV Cohort Study, Mach F, Kaiser L, Calmy A, Vuilleumier N. Anti-apolipoprotein A-1 autoantibodies are associated with immunodeficiency and systemic inflammation in HIV patients. *J Infect*. 2018 Feb;76(2):186-195. doi: 10.1016/j.jinf.2017.11.008. Epub 2017 Dec 14.

Bayard C, Ledergerber B, Flepp M, Lecompte T, Moulin E, Hoffmann M, Weber R, Staehelin C, Di Benedetto C, Fux CA, Tarr PE, Hasse B; Swiss HIV Cohort Study. Associations Between Antiretroviral Treatment and Avascular Bone Necrosis: The Swiss HIV Cohort Study. *Open Forum Infect Dis*. 2017 Aug 22;4(4):ofx177. doi: 10.1093/ofid/ofx177. eCollection 2017 Fall.

Cordey S, Vieille G, Turin L, Kaiser L. Usutu virus in cerebrospinal fluid: A 2-year survey in a Tertiary Care Hospital, Geneva, Switzerland. *J Med Virol*. 2018 Mar;90(3):609-611. doi: 10.1002/jmv.24967. Epub 2017 Nov 9.

Cordey S, Vu DL, Zanella MC, Turin L, Mamin A, Kaiser L. Novel and classical human astroviruses in stool and cerebrospinal fluid: comprehensive screening in a tertiary care hospital, Switzerland. *Emerg Microbes Infect*. 2017 Sep 20;6(9):e84. doi: 10.1038/emi.2017.71.

Essaidi-Laziosi M, Brito F, Benaoudia S, Royston L, Cagno V, Fernandes-Rocha M, Piuz I, Zdobnov E, Huang S, Constant S, Boldi MO, Kaiser L, Tapparel C. Propagation of respiratory viruses in human airway epithelia reveals persistent virus-specific signatures. *J Allergy Clin Immunol*. 2017 Aug 8. pii: S0091-6749(17)31274-5. doi: 10.1016/j.jaci.2017.07.018. [Epub ahead of print]

De Santis O, Kilowoko M, Kyungu E, Sangu W, Cherpillod P, Kaiser L, Genton B, D'Acremont V. Predictive value of clinical and laboratory features for the main febrile diseases in children living in Tanzania: A prospective observational study. PLoS One. 2017 May 2;12(5):e0173314. doi: 10.1371/journal.pone.0173314. eCollection 2017.

Huttner A, Combescure C, Grillet S, Haks MC, Quinten E, Modoux C, Agnandji ST, Brosnahan J, Dayer JA, Harandi AM, Kaiser L, Medaglini D, Monath T; VEBCON and VSV-EBOVAC Consortia, Roux-Lombard P, Kremsner PG, Ottenhoff TH, Siegrist CA. A dose-dependent plasma signature of the safety and immunogenicity of the rVSV-Ebola vaccine in Europe and Africa. Sci Transl Med. 2017 Apr 12;9(385). pii: eaaj1701. doi: 10.1126/scitranslmed.aaj1701.

Cordey S, Schibler M, L'Huillier AG, Wagner N, Gonçalves AR, Ambrosioni J, Asner S, Turin L, Posfay-Barbe KM, Kaiser L. Comparative analysis of viral shedding in pediatric and adult subjects with central nervous system-associated enterovirus infections from 2013 to 2015 in Switzerland. J Clin Virol. 2017 Apr;89:22-29. doi: 10.1016/j.jcv.2017.01.008. Epub 2017 Feb 7.

Gonçalves AR, Iten A, Suter-Boquete P, Schibler M, Kaiser L, Cordey S. Hospital surveillance of influenza strains: a concordant image of viruses identified by the Swiss Sentinel system? Influenza Other Respir Viruses. 2017 Jan;11(1):41-47. doi: 10.1111/irv.12417. Epub 2016 Aug 31.

5. *Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms⁹ and/or toxins studied, as well as outdoor studies of biological aerosols.*

The National Reference Center for Emerging Viral Infections is a federal reference laboratory by order of the Federal Office of Public Health. Its task is the detection of emerging and reemerging viruses of all biosafety levels, especially hemorrhagic fever viruses and variola virus. The BSL4 unit is approved for diagnostic purposes only, which does not allow any culturing or enrichment of such viruses. The National Reference Center for Emerging Viral Infections is part of the Virological Laboratory at the University Hospitals of Geneva. Besides its function as a reference laboratory it also carries out all other tasks related to the Regional Laboratory Network, such as the function of the Virological Laboratory acting as the Regional Competence Center for the primary analysis of virological samples suspicious of a bioterror-related background.

For further information please visit (website in French):
<http://www.hug-ge.ch/laboratoire-virologie>

⁹ Including viruses and prions.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Nationales Referenzzentrum (National Reference Center)
Name of facility	Institut für Virologie und Immunologie (Institute of Virology and Immunology)
Affiliation	Bundesamt für Lebensmittelsicherheit und Veterinärwesen, Eidgenössisches Departement des Innern (Federal Food Safety and Veterinary Office, Federal Department of Home Affairs)

2. *Where is it located (include both address and geographical location)?*

Location	Sensemattstrasse 293 CH-3147 Mittelhäusern
Geographical location	N 46° 52' 50.20", E 7° 21' 46.81"

3. *Floor area of laboratory areas by containment level:*

BSL2	210 m ²
BSL3	44 m ²
BSL3Ag	10'446 m ²
BSL4	0 m ²
Total	10'700 m ²

Of note, BSL3Ag facilities have special features not comparable to standard BSL3 or BSL4 facilities. The shell is considered BSL4, whereas inside the containment area BSL1 and BSL2 space is common standard. All authorized personnel enters through a shower barrier, works inside the containment area in clothing suitable to BSL1 or BSL2, and showers out when leaving. Due to these special features of BSL3Ag facilities, the BSL3Ag area is not limited to laboratory units, but also includes technical space and animal units, which is all located within the containment area. Therefore all maintenance work can be done during operation – the facility has never been shut down so far. This also means that a direct comparison with BSL4 facilities is not practicable.

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

64

(ii) *Division of personnel:*

Military	0
Civilian	64

(iii) *Division of personnel by category:*

Scientists	31 (including 13 student researchers / postdocs)
Engineers	8
Technicians	20
Administrative and support staff	5

(iv) *List the scientific disciplines represented in the scientific/engineering staff.*

Virology, immunology, vaccine control, diagnostics, development and validation of methods, biosafety, engineering, animal breeding

(v) *Are contractor staff working in the facility? If so, provide an approximate number.*

0

(vi) *What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?*

Swiss Confederation (Federal Department of Home Affairs)

(vii) *What are the funding levels for the following programme areas:*

Research	15 %
Development	10 %
Test & Evaluation	10 %
Analysis / Diagnosis	25 %
Education & Training	10 %
Other activities	30 % (costs for safety, infrastructure and administration)

(viii) *Briefly describe the publication policy of the facility:*

Publication in open literature

(ix) *Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)*

List of publicly available papers and reports published in 2017:

Albrecht N, Ottiger H. [Vaccinovigilance: Reports of adverse reactions in the year 2016]. [Article in German; Abstract available in German from the publisher]. Schweiz Arch Tierheilkd. 2017 Aug;159(8):423-427. doi: 10.17236/sat00123.

Baud D, Musso D, Vouga M, Alves MP, Vulliemoz N. Zika virus: A new threat to human reproduction. Am J Reprod Immunol. 2017 Feb;77(2). doi: 10.1111/aji.12614. Epub 2016 Dec 14.

Baumann A, Kiener MS, Haigh B, Perreten V, Summerfield A. Differential Ability of Bovine Antimicrobial Cathelicidins to Mediate Nucleic Acid Sensing by Epithelial Cells. Front Immunol. 2017 Feb 1;8:59. doi: 10.3389/fimmu.2017.00059. eCollection 2017.

Behrendt P, Perin P, Menzel N, Banda D, Pfaender S, Alves MP, Thiel V, Meulemann P, Colpitts CC, Schang LM, Vondran FWR, Anggakusuma, Manns MP, Steinmann E, Pietschmann T. Pentagalloylglucose, a highly bioavailable polyphenolic compound present in Cortex moutan, efficiently blocks hepatitis C virus entry. Antiviral Res. 2017 Nov;147:19-28. doi: 10.1016/j.antiviral.2017.09.006. Epub 2017 Sep 18.

Braun RO, Python S, Summerfield A. Porcine B Cell Subset Responses to Toll-like Receptor Ligands. Front Immunol. 2017 Aug 25;8:1044. doi: 10.3389/fimmu.2017.01044. eCollection 2017.

Canal CW, Weber MN, Cibulski SP, Silva MS, Puhl DE, Stalder H, Peterhans E. A Novel Genetic Group of Bovine Hepacivirus in Archival Serum Samples from Brazilian Cattle. *Biomed Res Int.* 2017;2017:4732520. doi: 10.1155/2017/4732520. Epub 2017 Aug 20.

Caridi F, Vázquez-Calvo Á, Borrego B, McCullough K, Summerfield A, Sobrino F, Martín-Acebes MA. Preserved immunogenicity of an inactivated vaccine based on foot-and-mouth disease virus particles with improved stability. *Vet Microbiol.* 2017 May;203:275-279. doi: 10.1016/j.vetmic.2017.03.031. Epub 2017 Mar 30.

Ciminski K, Thamamongood T, Zimmer G, Schwemmle M. Novel insights into bat influenza A viruses. *J Gen Virol.* 2017 Oct;98(10):2393-2400. doi: 10.1099/jgv.0.000927. Epub 2017 Sep 14.

Coronado L, Liniger M, Muñoz-González S, Postel A, Pérez LJ, Pérez-Simó M, Perera CL, Frías-Lepoureau MT, Rosell R, Grundhoff A, Indenbirken D, Alawi M, Fischer N, Becher P, Ruggli N, Ganges L. Novel poly-uridine insertion in the 3'UTR and E2 amino acid substitutions in a low virulent classical swine fever virus. *Vet Microbiol.* 2017 Mar;201:103-112. doi: 10.1016/j.vetmic.2017.01.013. Epub 2017 Jan 17.

Démoulins T, Ebensen T, Schulze K, Englezou PC, Pelliccia M, Guzmán CA, Ruggli N, McCullough KC. Self-replicating RNA vaccine functionality modulated by fine-tuning of polyplex delivery vehicle structure. *J Control Release.* 2017 Nov 28;266:256-271. doi: 10.1016/j.jconrel.2017.09.018. Epub 2017 Sep 19.

Démoulins T, Englezou PC, Milona P, Ruggli N, Tirelli N, Pichon C, Sapet C, Ebensen T, Guzmán CA, McCullough KC. Self-Replicating RNA Vaccine Delivery to Dendritic Cells. *Methods Mol Biol.* 2017;1499:37-75.

Fuchs J, Hölzer M, Schilling M, Patzina C, Schoen A, Hoenen T, Zimmer G, Marz M, Weber F, Müller MA, Kochs G. Evolution and Antiviral Specificities of Interferon-Induced Mx Proteins of Bats against Ebola, Influenza, and Other RNA Viruses. *J Virol.* 2017 Jul 12;91(15). pii: e00361-17. doi: 10.1128/JVI.00361-17. Print 2017 Aug 1.

Galan-Navarro C, Rincon-Restrepo M, Zimmer G, Ollmann Saphire E, Hubbell JA, Hirosue S, Swartz MA, Kunz S. Oxidation-sensitive polymersomes as vaccine nanocarriers enhance humoral responses against Lassa virus envelope glycoprotein. *Virology.* 2017 Dec;512:161-171. doi: 10.1016/j.virol.2017.09.013. Epub 2017 Sep 28.

García-Nicolás O, Ricklin ME, Liniger M, Vielle NJ, Python S, Souque P, Charneau P, Summerfield A. A Japanese Encephalitis Virus Vaccine Inducing Antibodies Strongly Enhancing In Vitro Infection Is Protective in Pigs. *Viruses.* 2017 May 22;9(5). pii: E124. doi: 10.3390/v9050124.

Kaiser V, Nebel L, Schüpbach-Regula G, Zanoni RG, Schweizer M. Influence of border disease virus (BDV) on serological surveillance within the bovine virus diarrhea (BVD) eradication program in Switzerland. *BMC Vet Res.* 2017 Jan 13;13(1):21. doi: 10.1186/s12917-016-0932-0.

Kindler E, Gil-Cruz C, Spanier J, Li Y, Wilhelm J, Rabouw HH, Züst R, Hwang M, V'kovski P, Stalder H, Marti S, Habjan M, Cervantes-Barragan L, Elliot R, Karl N, Gaughan C, van Kuppeveld FJ, Silverman RH, Keller M, Ludewig B, Bergmann CC, Ziebuhr J, Weiss SR, Kalinke U, Thiel V. Early endonuclease-mediated evasion of RNA sensing ensures efficient coronavirus replication. *PLoS Pathog.* 2017 Feb 3;13(2):e1006195. doi: 10.1371/journal.ppat.1006195. eCollection 2017 Feb.

Lannes N, Neuhaus V, Scolari B, Kharoubi-Hess S, Walch M, Summerfield A, Filgueira L. Interactions of human microglia cells with Japanese encephalitis virus. *Virol J.* 2017 Jan 14;14(1):8. doi: 10.1186/s12985-016-0675-3.

Lannes N, Summerfield A, Filgueira L. Regulation of inflammation in Japanese encephalitis. *J Neuroinflammation.* 2017 Aug 14;14(1):158. doi: 10.1186/s12974-017-0931-5.

Martin KR, Pederzoli-Ribeil M, Pacreau E, Burgener SS, Dahdah A, Candalh C, Lauret E, Foretz M, Mouthon L, Lucas B, Thieblemont N, Benarafa C, Launay P, Witko-Sarsat V. Transgenic Mice Expressing Human Proteinase 3 Exhibit Sustained Neutrophil-Associated Peritonitis. *J Immunol.* 2017 Dec 1;199(11):3914-3924. doi: 10.4049/jimmunol.1601522. Epub 2017 Oct 27.

Pfaender S, Vielle NJ, Ebert N, Steinmann E, Alves MP, Thiel V. Inactivation of Zika virus in human breast milk by prolonged storage or pasteurization. *Virus Res.* 2017 Jan 15;228:58-60. doi: 10.1016/j.virusres.2016.11.025. Epub 2016 Nov 23.

Pfaender S, Walter S, Grabski E, Todt D, Bruening J, Romero-Brey I, Gather T, Brown RJ, Hahn K, Puff C, Pfankuche VM, Hansmann F, Postel A, Becher P, Thiel V, Kalinke U, Wagner B, Bartenschlager R, Baumgärtner W, Feige K, Pietschmann T, Cavalleri JM, Steinmann E. Immune protection against reinfection with nonprimate hepacivirus. *Proc Natl Acad Sci U S A.* 2017 Mar 21;114(12):E2430-E2439. doi: 10.1073/pnas.1619380114. Epub 2017 Mar 8.

Ricklin ME, Python S, Vielle NJ, Brechbühl D, Zumkehr B, Posthaus H, Zimmer G, Ruggli N, Summerfield A. Virus replicon particle vaccines expressing nucleoprotein of influenza A virus mediate enhanced inflammatory responses in pigs. *Sci Rep.* 2017 Nov 27;7(1):16379. doi: 10.1038/s41598-017-16419-w.

Schögler A, Blank F, Brügger M, Beyeler S, Tschanz SA, Regamey N, Casaulta C, Geiser T, Alves MP. Characterization of pediatric cystic fibrosis airway epithelial cell cultures at the air-liquid interface obtained by non-invasive nasal cytology brush sampling. *Respir Res.* 2017 Dec 28;18(1):215. doi: 10.1186/s12931-017-0706-7.

Schweneker M, Laimbacher AS, Zimmer G, Wagner S, Schraner EM, Wolferstätter M, Klingenberg M, Dirmeier U, Steigerwald R, Lauterbach H, Hochrein H, Chaplin P, Suter M, Hausmann J. Recombinant Modified Vaccinia Virus Ankara Generating Ebola Virus-Like Particles. *J Virol.* 2017 May 12;91(11). pii: e00343-17. doi: 10.1128/JVI.00343-17. Print 2017 Jun 1.

Siddharta A, Pfaender S, Vielle NJ, Dijkman R, Friesland M, Becker B, Yang J, Engelmann M, Todt D, Windisch MP, Brill FH, Steinmann J, Steinmann J, Becker S, Alves MP, Pietschmann T, Eickmann M, Thiel V, Steinmann E. Virucidal Activity of World Health Organization-Recommended Formulations Against Enveloped Viruses, Including Zika, Ebola, and Emerging Coronaviruses. *J Infect Dis.* 2017 Mar 15;215(6):902-906. doi: 10.1093/infdis/jix046.

Stalder H, Marti S, Flückiger F, Renevey N, Hofmann MA, Schweizer M. Complete Genome Sequences of Three Border Disease Virus Strains of the Same Subgenotype, BDSwiss, Isolated from Sheep, Cattle, and Pigs in Switzerland. *Genome Announc.* 2017 Nov 9;5(45). pii: e01238-17. doi: 10.1128/genomeA.01238-17.

Tavella A, Bettini A, Ceol M, Zambotto P, Stifter E, Kusstatscher N, Lombardi R, Nardeli S, Beato MS, Capello K, Bertoni G. Achievements of an eradication programme against caprine arthritis encephalitis virus in South Tyrol, Italy. *Vet Rec.* 2018 Jan 13;182(2):51. doi: 10.1136/vr.104503. Epub 2017 Nov 6.

Thiel A, Mogel H, Bruggisser J, Baumann A, Wyder M, Stoffel MH, Summerfield A, Posthaus H. Effect of *Clostridium perfringens* β -Toxin on Platelets. *Toxins (Basel).* 2017 Oct 24;9(10). pii: E336. doi: 10.3390/toxins9100336.

Thomann B, Falzon LC, Bertoni G, Vogt HR, Schüpbach-Regula G, Magouras I. A census to determine the prevalence and risk factors for caprine arthritis-encephalitis virus and visna/maedi virus in the Swiss goat population. *Prev Vet Med.* 2017 Feb 1;137(Pt A):52-58. doi: 10.1016/j.prevetmed.2016.12.012. Epub 2016 Dec 21.

Vescovo P, Rettby N, Ramaniraka N, Liberman J, Hart K, Cachemaille A, Piveteau LD, Zaroni R, Bart PA, Pantaleo G. Safety, tolerability and efficacy of intradermal rabies immunization with DebioJect™. *Vaccine.* 2017 Mar 27;35(14):1782-1788. doi: 10.1016/j.vaccine.2016.09.069.

Wenner L, Pauli U, Summermatter K, Gantenbein H, Vidondo B, Posthaus H. Aerosol Generation During Bone-Sawing Procedures in Veterinary Autopsies. *Vet Pathol.* 2017 May;54(3):425-436. doi: 10.1177/0300985816688744. Epub 2017 Jan 23.

5. *Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms⁹ and/or toxins studied, as well as outdoor studies of biological aerosols.*

The Institute of Virology and Immunology (IVI), which is part of the Swiss Federal Food Safety and Veterinary Office, is the ISO 17025 accredited institute for the diagnosis, surveillance and control of highly contagious epizootics. In addition, the IVI pursues research both on these viruses and emerging viral diseases, as well as their potential transmission to man. The IVI is also the competent authority issuing the licenses required for the sale of veterinary immunobiological products. Basic research is carried out in the fields of immunology and virology, and involves influenza virus, foot-and-mouth disease virus, classical swine fever virus and porcine circovirus type 2. The development and diagnostics branches focus on assays and tests for classical and african swine fever, foot-and-mouth disease, avian influenza, bluetongue, and other highly contagious infectious diseases. In this domain, the IVI occupies a leading position internationally.

For further information please visit: <https://www.iv.admin.ch/ivi/en/home.html>

⁹ Including viruses and prions.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Centre Régional de Compétence – Laboratoire Régional Ouest (GE) (Regional Competence Center – Regional Laboratory West (GE))
Authority	Département de l'environnement, des transports et de l'agriculture, Canton de Genève (Department for Environment, Transport and Agriculture, Canton of Geneva)
Name of facility	Laboratoire de Bactériologie (Bacteriological Laboratory)
Affiliation	Hôpitaux Universitaires de Genève (University Hospitals of Geneva)

2. *Where is it located (include both address and geographical location)?*

Location	Rue Gabrielle Perret-Gentil 4 CH-1211 Genève 14
Geographical location	N 46° 11' 37.20", E 6° 8' 59.92"

3. *Floor area of laboratory areas by containment level:*

BSL2	524 m ²
BSL3	80 m ²
BSL3Ag	0 m ²
BSL4	0 m ²
Total	604 m ²

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

7

(ii) *Division of personnel:*

Military	0
Civilian	7

(iii) *Division of personnel by category:*

Scientists	3
Engineers	0
Technicians	4
Administrative and support staff	0

(iv) *List the scientific disciplines represented in the scientific/engineering staff.*

Medicine, biology, microbiology, molecular biology, bacterial genetics, infectious diseases

(v) *Are contractor staff working in the facility? If so, provide an approximate number.*

0

(vi) *What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?*

Cantons of Fribourg, Genève, Neuchâtel, Valais, Vaud

(vii) *What are the funding levels for the following programme areas:*

Research	0 %
Development	5 %
Test & Evaluation	40 %
Analysis / Diagnosis	40 %
Education & Training	13 %
Other activities	2 % (costs for maintenance and administration)

(viii) *Briefly describe the publication policy of the facility:*

Publication in open literature

(ix) *Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)*

List of publicly available papers and reports published in 2017:

Zingg W, Soulake I, Baud D, Huttner B, Pfister R, Renzi G, Pittet D, Schrenzel J, Francois P. Management and investigation of a *Serratia marcescens* outbreak in a neonatal unit in Switzerland - the role of hand hygiene and whole genome sequencing - R1, ARIC-D-17-00143. *Antimicrob Resist Infect Control*. 2017 Dec 11;6:125. doi: 10.1186/s13756-017-0285-x. eCollection 2017.

Ruppé E, Cherkaoui A, Wagner N, La Scala GC, Beaulieu JY, Girard M, Frey J, Lazarevic V, Schrenzel J. In vivo selection of a multidrug-resistant *Aeromonas salmonicida* during medicinal leech therapy. *New Microbes New Infect*. 2017 Oct 10;21:23-27. doi: 10.1016/j.nmni.2017.10.005. eCollection 2018 Jan.

Ruppé E, Cherkaoui A, Lazarevic V, Emonet S, Schrenzel J. Establishing Genotype-to-Phenotype Relationships in Bacteria Causing Hospital-Acquired Pneumonia: A Prelude to the Application of Clinical Metagenomics. *Antibiotics (Basel)*. 2017 Nov 29;6(4). pii: E30. doi: 10.3390/antibiotics6040030.

El Houmami N, Schrenzel J, Yagupsky P, Robert C, Ceroni D, Raoult D, Fournier PE. Draft Genome Sequence of *Kingella negevensis* SW7208426, the First European Strain of *K. negevensis* Isolated from a Healthy Child in Switzerland. *Genome Announc*. 2017 Jun 29;5(26). pii: e00571-17. doi: 10.1128/genomeA.00571-17.

El Houmami N, Ceroni D, Codjo Seignon K, Pons JC, Lambert C, Durand GA, Minodier P, Lamah L, Bidet P, Schrenzel J, Raoult D, Fournier PE. Acute Septic Arthritis of the Knee Caused by *Kingella kingae* in a 5-Year-Old Cameroonian Boy. *Front Pediatr*. 2017 Nov 6;5:230. doi: 10.3389/fped.2017.00230. eCollection 2017.

Sancho-Vaello E, François P, Bonetti EJ, Lilie H, Finger S, Gil-Ortiz F, Gil-Carton D, Zeth K. Structural remodeling and oligomerization of human cathelicidin on membranes suggest fibril-like structures as active species. *Sci Rep*. 2017 Nov 13;7(1):15371. doi: 10.1038/s41598-017-14206-1.

El-Hossary EM, Förstner KU, François P, Baud D, Streker K, Schrenzel J, Ohlsen K, Holzgrabe U. A Novel Mechanism of Inactivating Antibacterial Nitro Compounds in the Human Pathogen *Staphylococcus aureus* by Overexpression of a NADH-Dependent Flavin Nitroreductase. *Antimicrob Agents Chemother*. 2018 Jan 25;62(2). pii: e01510-17. doi: 10.1128/AAC.01510-17. Print 2018 Feb.

Spyropoulou V, Brändle G, Maggio ABR, Anderson Della Llana R, Cherkaoui A, Renzi G, Schrenzel J, Manzano S, Ceroni D. A transversal pilot study of oropharyngeal carriage of *Kingella kingae* in healthy children younger than 6 months. *World J Pediatr*. 2017 Dec;13(6):615-617. doi: 10.1007/s12519-017-0060-3. Epub 2017 Oct 20.

Schrenzel J, Greub G. Microbiote, médecine de précision et microbiologie. *Rev Med Suisse*. 2017 Nov 8;13(582):1958. French. No abstract available.

Leo S, Gaïa N, Ruppé E, Emonet S, Girard M, Lazarevic V, Schrenzel J. Detection of Bacterial Pathogens from Broncho-Alveolar Lavage by Next-Generation Sequencing. *Int J Mol Sci*. 2017 Sep 20;18(9). pii: E2011. doi: 10.3390/ijms18092011.

Gravel J, Ceroni D, Lacroix L, Renaud C, Grimard G, Samara E, Cherkaoui A, Renzi G, Schrenzel J, Manzano S. Association between oropharyngeal carriage of *Kingella kingae* and osteoarticular infection in young children: a case-control study. *CMAJ*. 2017 Sep 5;189(35):E1107-E1111. doi: 10.1503/cmaj.170127.

Ruppé E, Lazarevic V, Girard M, Mouton W, Ferry T, Laurent F, Schrenzel J. Clinical metagenomics of bone and joint infections: a proof of concept study. *Sci Rep*. 2017 Aug 10;7(1):7718. doi: 10.1038/s41598-017-07546-5.

Martischang R, Abbas M, Harbarth S, Huttner B, Schrenzel J. [How to use microbiological diagnostic tests in a hospital setting]. [Article in French; Abstract available in French from the publisher]. *Rev Med Suisse*. 2017 Apr 12;13(558):792-796.

van der Mee-Marquet N, Diene SM, Barbera L, Courtier-Martinez L, Lafont L, Ouachée A, Valentin AS, Santos SD, Quentin R, François P. Analysis of the prophages carried by human infecting isolates provides new insight into the evolution of Group B *Streptococcus* species. *Clin Microbiol Infect*. 2017 Sep 1. pii: S1198-743X(17)30483-4. doi: 10.1016/j.cmi.2017.08.024. [Epub ahead of print]

Renzoni A, Von Dach E, Landelle C, Diene SM, Manzano C, Gonzales R, Abdelhady W, Randall CP, Bonetti EJ, Baud D, O'Neill AJ, Bayer A, Cherkaoui A, Schrenzel J, Harbarth S, François P. Impact of Exposure of Methicillin-Resistant *Staphylococcus aureus* to Polyhexanide In Vitro and In Vivo. *Antimicrob Agents Chemother*. 2017 Sep 22;61(10). pii: e00272-17. doi: 10.1128/AAC.00272-17. Print 2017 Oct.

El Houmami N, Bakour S, Bzdrenga J, Rathored J, Seligmann H, Robert C, Armstrong N, Schrenzel J, Raoult D, Yagupsky P, Fournier PE. Isolation and characterization of *Kingella negevensis* sp. nov., a novel *Kingella* species detected in a healthy paediatric population. *Int J Syst Evol Microbiol*. 2017 Jul;67(7):2370-2376. doi: 10.1099/ijsem.0.001957. Epub 2017 Jul 12.

Emonet S, Lazarevic V, Pugin J, Schrenzel J, Ruppé E. Clinical Metagenomics for the Diagnosis of Hospital-acquired Infections: Promises and Hurdles. *Am J Respir Crit Care Med*. 2017 Dec 15;196(12):1617-1618. doi: 10.1164/rccm.201705-0983LE.

El Houmami N, Schrenzel J, Yagupsky P, Robert C, Ceroni D, Raoult D, Fournier PE. Draft Genome Sequence of *Kingella negevensis* SW7208426, the First European Strain of *K. negevensis* Isolated from a Healthy Child in Switzerland. *Genome Announc*. 2017 Jun 29;5(26). pii: e00571-17. doi: 10.1128/genomeA.00571-17.

François P, Bonetti EJ, Fankhauser C, Baud D, Cherkaoui A, Schrenzel J, Harbarth S. Rapid identification of ST131 *Escherichia coli* by a novel multiplex real-time allelic discrimination assay. *J Microbiol Methods*. 2017 Sep;140:12-14. doi: 10.1016/j.mimet.2017.06.018. Epub 2017 Jun 26.

Costa SK, Donegan NP, Corvaglia AR, François P, Cheung AL. Bypassing the restriction system to improve transformation of *Staphylococcus epidermidis*. *J Bacteriol*. 2017 May 30. pii: JB.00271-17. doi: 10.1128/JB.00271-17. [Epub ahead of print]

Abbas M, Emonet S, Köhler T, Renzi G, van Delden C, Schrenzel J, Hirschel B. Ecthyma Gangrenosum: *Escherichia coli* or *Pseudomonas aeruginosa*? *Front Microbiol*. 2017 May 30;8:953. doi: 10.3389/fmicb.2017.00953. eCollection 2017.

Grall N, Lazarevic V, Gaïa N, Couffignal C, Laouénan C, Ilic-Habensus E, Wieder I, Plesiat P, Angebault C, Bougnoux ME, Armand-Lefevre L, Andreumont A, Duval X, Schrenzel J. Unexpected persistence of extended-spectrum β -lactamase-producing Enterobacteriaceae in the faecal microbiota of hospitalised patients treated with imipenem. *Int J Antimicrob Agents*. 2017 Jul;50(1):81-87. doi: 10.1016/j.ijantimicag.2017.02.018. Epub 2017 May 10.

Delcò C, Karam O, Pfister R, Gervaix A, Renzi G, Emonet S, Schrenzel J, Posfay-Barbe KM. Rapid detection and ruling out of neonatal sepsis by PCR coupled with Electrospray Ionization Mass Spectrometry (PCR/ESI-MS). *Early Hum Dev*. 2017 May;108:17-22. doi: 10.1016/j.earlhumdev.2017.03.004. Epub 2017 Mar 23.

Damonti L, Erard V, Garbino J, Schrenzel J, Zimmerli S, Mühlethaler K, Imhof A, Zbinden R, Fehr J, Boggian K, Bruderer T, Flückiger U, Frei R, Orasch C, Conen A, Khanna N, Bregenzer T, Bille J, Lamothe F, Marchetti O, Bochud PY; Fungal Infection Network of Switzerland (FUNGINOS). Catheter retention as a consequence rather than a cause of unfavorable outcome in candidemia. *Intensive Care Med*. 2017 Jun;43(6):935-939. doi: 10.1007/s00134-017-4737-9. Epub 2017 Mar 7.

Frossard CP, Lazarevic V, Gaïa N, Leo S, Doras C, Habre W, Schrenzel J, Burger D, Eigenmann PA. The farming environment protects mice from allergen-induced skin contact hypersensitivity. *Clin Exp Allergy*. 2017 Jun;47(6):805-814. doi: 10.1111/cea.12905. Epub 2017 Mar 19.

Diene SM, Corvaglia AR, François P, van der Mee-Marquet N; Regional Infection Control Group of the Centre Region. Prophages and adaptation of *Staphylococcus aureus* ST398 to the human clinic. *BMC Genomics*. 2017 Feb 6;18(1):133. doi: 10.1186/s12864-017-3516-x.

Ruppé E, Greub G, Schrenzel J. Messages from the first International Conference on Clinical Metagenomics (ICCMg). *Microbes Infect*. 2017 Apr - May;19(4-5):223-228. doi: 10.1016/j.micinf.2017.01.005. Epub 2017 Feb 1.

Ruppé E, Olearo F, Pires D, Baud D, Renzi G, Cherkaoui A, Goldenberger D, Huttner A, François P, Harbarth S, Schrenzel J. Clonal or not clonal? Investigating hospital outbreaks of KPC-producing *Klebsiella pneumoniae* with whole-genome sequencing. *Clin Microbiol Infect*. 2017 Jul;23(7):470-475. doi: 10.1016/j.cmi.2017.01.015. Epub 2017 Jan 29.

Moussounda M, Diene SM, Dos Santos S, Goudeau A, François P, van der Mee-Marquet N. Emergence of bla_{NDM-7}-Producing Enterobacteriaceae in Gabon, 2016. *Emerg Infect Dis*. 2017 Feb;23(2):356-358. doi: 10.3201/eid2302.161182.

Raafat D, Leib N, Wilmes M, François P, Schrenzel J, Sahl HG. Development of in vitro resistance to chitosan is related to changes in cell envelope structure of *Staphylococcus aureus*. *Carbohydr Polym*. 2017 Feb 10;157:146-155. doi: 10.1016/j.carbpol.2016.09.075. Epub 2016 Sep 26.

Patot S, Imbert PR, Baude J, Martins Simões P, Campergue JB, Louche A, Nijland R, Bès M, Tristan A, Laurent F, Fischer A, Schrenzel J, Vandenesch F, Salcedo SP, François P, Lina G. The TIR Homologue Lies near Resistance Genes in *Staphylococcus aureus*, Coupling Modulation of Virulence and Antimicrobial Susceptibility. *PLoS Pathog*. 2017 Jan 6;13(1):e1006092. doi: 10.1371/journal.ppat.1006092. eCollection 2017 Jan.

5. *Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms⁹ and/or toxins studied, as well as outdoor studies of biological aerosols.*

The Bacteriological Laboratory, which is part of the University Hospitals of Geneva, is the Regional Competence Center for the primary analysis of bacteriological samples suspicious of a bioterror-related background. Protocols for the detection of bacteria causing anthrax, plague, tularemia and brucellosis have been established in close collaboration with the National Reference Center for Anthrax. Furthermore, there is a strong link between the Bacteriological Laboratory and the Genomic Research Laboratory that is almost exclusively executing basic and applied research projects under joint leadership. Translational research is actively promoted through this channel of cooperation.

For further information please visit (website in French):

<http://www.hug-ge.ch/laboratoire-bacteriologie>

⁹ Including viruses and prions.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Centre Régional de Compétence – Laboratoire Régional Ouest (GE) (Regional Competence Center – Regional Laboratory West (GE))
Authority	Département de l'environnement, des transports et de l'agriculture, Canton de Genève (Department for Environment, Transport and Agriculture, Canton of Geneva)
Name of facility	Laboratoire de Virologie – Centre National de Référence pour les Infections Virales Emergentes (Virology Laboratory – National Reference Center for Emerging Viral Infections)
Affiliation	Hôpitaux Universitaires de Genève (University Hospitals of Geneva)

This facility is declared in accordance with Form A, part 2 (iii) [► pages 38 to 41].

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Centre Régional de Compétence – Laboratoire Régional Ouest (VD) (Regional Competence Center – Regional Laboratory West (VD))
Authority	Direction Générale de l'Environnement, Département du Territoire et de l'Environnement, Canton de Vaud (Directorate-General for Environment, Territory and Environment Department, Canton of Vaud)
Name of facility	Laboratoires de Diagnostic de l'Institut de Microbiologie (Diagnostic Laboratories of the Institute of Microbiology)
Affiliation	Département de Pathologie et Médecine de Laboratoire, Centre Hospitalier Universitaire Vaudois (Department of Pathology and Laboratory Medicine, University Hospital of Lausanne)

2. *Where is it located (include both address and geographical location)?*

Location	Rue du Bugnon 48 CH-1011 Lausanne
Geographical location	N 46° 31' 30.57", E 6° 38' 29.15"

3. *Floor area of laboratory areas by containment level:*

BSL2	0 m ²
BSL3	77 m ²
BSL3Ag	0 m ²
BSL4	0 m ²
Total	77 m ²

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

13

(ii) *Division of personnel:*

Military	0
Civilian	13

(iii) *Division of personnel by category:*

Scientists	6
Engineers	0
Technicians	7
Administrative and support staff	0

(iv) *List the scientific disciplines represented in the scientific/engineering staff.*

Bacteriology, mycology, parasitology, virology

(v) *Are contractor staff working in the facility? If so, provide an approximate number.*

0

(vi) *What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?*

Cantons of Fribourg, Genève, Neuchâtel, Valais, Vaud

(vii) *What are the funding levels for the following programme areas:*

Research	0 %
Development	5 %
Test & Evaluation	5 %
Analysis / Diagnosis	70 %
Education & Training	20 %
Other activities	0 %

(viii) *Briefly describe the publication policy of the facility:*

Publication in open literature

(ix) *Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)*

List of publicly available papers and reports published in 2017:

Thommen F, Opota O, Greub G, Jaton K, Guex-Crosier Y, Wolfensberger TJ, Matet A. Capnocytophaga canimorsus endophthalmitis after cataract surgery linked to salivary dog-to-human transmission. Retin Cases Brief Rep. 2017 Sep 27. doi: 10.1097/ICB.0000000000000637. [Epub ahead of print]

Opota O, Laurent S, Pillonel T, Léger M, Trachsel S, Prod'homme G, Jaton K, Greub G. Genomics of the new species Kingella negevensis: diagnostic issues and identification of a locus encoding a RTX toxin. Microbes Infect. 2017 Nov;19(11):546-552. doi: 10.1016/j.micinf.2017.08.001. Epub 2017 Aug 10.

Opota O, Brouillet R, Greub G, Jaton K. Methods for Real-Time PCR-Based Diagnosis of Chlamydia pneumoniae, Chlamydia psittaci, and Chlamydia abortus Infections in an Opened Molecular Diagnostic Platform. Methods Mol Biol. 2017;1616:171-181. doi: 10.1007/978-1-4939-7037-7_11.

Morton CO, White PL, Barnes RA, Klingspor L, Cuenca-Estrella M, Lagrou K, Bretagne S, Melchers W, Mengoli C, Caliendo AM, Cogliati M, Debets-Ossenkopp Y, Gorton R, Hagen F, Halliday C, Hamal P, Harvey-Wood K, Jaton K, Johnson G, Kidd S, Lengerova M, Lass-Flörl C, Linton C, Millon L, Morrissey CO, Paholcsek M, Talento AF, Ruhnke M, Willinger B, Donnelly JP, Loeffler J; EAPCRI. Determining the analytical specificity of PCR-based assays for the diagnosis of IA: What is Aspergillus? Med Mycol. 2017 Jun 1;55(4):402-413. doi: 10.1093/mmy/myw093.

5. *Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms⁹ and/or toxins studied, as well as outdoor studies of biological aerosols.*

The Diagnostic Laboratories of the Institute of Microbiology, which are part of the University Hospital of Lausanne, are the Regional Competence Center for the primary analysis of samples suspicious of a bioterror-related background. Due to its other diagnostic activities, it is able to cover the whole spectrum of microbiology.

For further information please visit:

http://www.chuv.ch/microbiologie/imu_home/imu-prestations.htm

⁹ Including viruses and prions.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Regionales Kompetenzzentrum – Regionallabor Zentrum West (BE) (Regional Competence Center – Regional Laboratory West Central (BE))
Authority	Kantonales Laboratorium Bern, Gesundheits- und Fürsorgedirektion, Kanton Bern (Cantonal Laboratory of Berne, Directorate of Public Health and Welfare, Canton of Berne)
Name of facility	Labor Spiez (Spiez Laboratory)
Affiliation	Bundesamt für Bevölkerungsschutz, Eidgenössisches Departement für Verteidigung, Bevölkerungsschutz und Sport (Federal Office for Civil Protection, Federal Department of Defence, Civil Protection and Sports)

This facility is declared in accordance with Form A, part 2 (iii) [➤ pages 28 to 36].

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Regionales Kompetenzzentrum – Regionallabor Zentrum Ost (LU) (Regional Competence Center – Regional Laboratory East Central (LU))
Authority	Luzerner Kantonsspital, Kanton Luzern (Cantonal Hospital of Lucerne, Canton of Lucerne)
Name of facility	Institut für Medizinische Mikrobiologie (Department of Medical Microbiology)
Affiliation	Zentrum für LaborMedizin, Luzerner Kantonsspital (Center for Laboratory Medicine, Cantonal Hospital of Luzern)

2. *Where is it located (include both address and geographical location)?*

Location	Luzerner Kantonsspital Haus 47 Spitalstrasse CH-6000 Luzern 16
Geographical location	N 47° 3' 32.45", E 8° 18' 1.17"

3. *Floor area of laboratory areas by containment level:*

BSL2	716 m ²
BSL3	62 m ²
BSL3Ag	0 m ²
BSL4	0 m ²
Total	778 m ²

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

(ii) *Division of personnel:*

Military	0
Civilian	8

(iii) *Division of personnel by category:*

Scientists	3
Engineers	0
Technicians	5
Administrative and support staff	0

(iv) *List the scientific disciplines represented in the scientific/engineering staff.*

Clinical microbiology (all disciplines; diagnostics and applied research)

(v) *Are contractor staff working in the facility? If so, provide an approximate number.*

0

(vi) *What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?*

Cantons of Luzern, Nidwalden, Obwalden, Schwyz, Uri

(vii) *What are the funding levels for the following programme areas:*

Research	0 %
Development	0 %
Test & Evaluation	15 %
Analysis / Diagnosis	75 %
Education & Training	10 %
Other activities	0 %

(viii) *Briefly describe the publication policy of the facility:*

Publication in open literature

(ix) *Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)*

No publicly available papers or reports published in 2017.

5. *Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms⁹ and/or toxins studied, as well as outdoor studies of biological aerosols.*

The Department of Medical Microbiology, as part of the Zentrum für LaborMedizin, Luzerner Kantonsspital, is accredited (ISO / EN 17025) for clinical bacteriology, mycology, mycobacteriology, parasitology, molecular diagnostics, serology. The current focus of applied research activities is on specific bacteriological / molecular testing topics. In addition, it is the Regional Competence Center for primary analyses of samples suspicious of a bioterror-related background.

For further information please visit (website in German):

<https://www.luks.ch/standorte/luzern/kliniken/zentrum-fuer-labormedizin/institut-fuer-medizinische-mikrobiologie.html>

⁹ Including viruses and prions.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Regionales Kompetenzzentrum – Regionallabor Ost (ZH) (Regional Competence Center – Regional Laboratory East (ZH))
Authority	Amt für Abfall, Wasser, Energie und Luft, Baudirektion, Kanton Zürich (Office for Waste, Water, Energy and Air, Directorate of Construction, Canton of Zurich)
Name of facility	Institut für Medizinische Mikrobiologie (Institute of Medical Microbiology)
Affiliation	Medizinische Fakultät, Universität Zürich (Faculty of Medicine, University of Zurich)

2. *Where is it located (include both address and geographical location)?*

Location	Gloriastrasse 30/32 CH-8006 Zürich
Geographical location	N 47° 22' 36.20", E 8° 33' 11.18"

3. *Floor area of laboratory areas by containment level:*

BSL2	0 m ²
BSL3	20 m ²
BSL3Ag	0 m ²
BSL4	0 m ²
Total	20 m ²

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

3

(ii) *Division of personnel:*

Military	0
Civilian	3

(iii) *Division of personnel by category:*

Scientists	2
Engineers	0
Technicians	1
Administrative and support staff	0

(iv) *List the scientific disciplines represented in the scientific/engineering staff.*

Microbiology (bacteriology / mycology)

(v) *Are contractor staff working in the facility? If so, provide an approximate number.*

0

(vi) *What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?*

Cantons of Appenzell Ausserrhoden, Appenzell Innerrhoden, Glarus, Graubünden, Sankt Gallen, Schaffhausen, Thurgau, Zug, Zürich, and the Principality of Liechtenstein

(vii) *What are the funding levels for the following programme areas:*

Research	0 %
Development	0 %
Test & Evaluation	10 %
Analysis / Diagnosis	80 %
Education & Training	10 %
Other activities	0 %

(viii) *Briefly describe the publication policy of the facility:*

Publication in open literature

(ix) *Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)*

List of publicly available papers and reports published in 2017:

van Ingen J, Kohl TA, Kranzer K, Hasse B, Keller PM, Katarzyna Szafrńska A, Hillemann D, Chand M, Schreiber PW, Sommerstein R, Berger C, Genoni M, Rüegg C, Troillet N, Widmer AF, Becker SL, Herrmann M, Eckmanns T, Haller S, Höller C, Debast SB, Wolfhagen MJ, Hopman J, Kluytmans J, Langelaar M, Notermans DW, Ten Oever J, van den Barselaar P, Vonk ABA, Vos MC, Ahmed N, Brown T, Crook D, Lamagni T, Phin N, Smith EG, Zambon M, Serr A, Götting T, Ebner W, Thürmer A, Utpatel C, Spröer C, Bunk B, Nübel U, Bloemberg GV, Böttger EC, Niemann S, Wagner D, Sax H. Global outbreak of severe Mycobacterium chimaera disease after cardiac surgery: a molecular epidemiological study. Lancet Infect Dis. 2017 Oct;17(10):1033-1041. doi: 10.1016/S1473-3099(17)30324-9. Epub 2017 Jul 12.

Aggarwal A, Parai MK, Shetty N, Wallis D, Woolhiser L, Hastings C, Dutta NK, Galaviz S, Dhakal RC, Shrestha R, Wakabayashi S, Walpole C, Matthews D, Floyd D, Scullion P, Riley J, Epemolu O, Norval S, Snavelly T, Robertson GT, Rubin EJ, Iorger TR, Sirgel FA, van der Merwe R, van Helden PD, Keller P, Böttger EC, Karakousis PC, Lenaerts AJ, Sacchettini JC. Development of a Novel Lead that Targets M. tuberculosis Polyketide Synthase 13. Cell. 2017 Jul 13;170(2):249-259.e25. doi: 10.1016/j.cell.2017.06.025. Epub 2017 Jun 29.

Mandhapat AR, Yang G, Kato T, Shcherbakov D, Hobbie SN, Vasella A, Böttger EC, Crich D. Structure-Based Design and Synthesis of Apramycin-Paromomycin Analogues: Importance of the Configuration at the 6'-Position and Differences between the 6'-Amino and Hydroxy Series. J Am Chem Soc. 2017 Oct 18;139(41):14611-14619. doi: 10.1021/jacs.7b07754. Epub 2017 Oct 9.

Blöchliger N, Keller PM, Böttger EC, Hombach M. MASTER: a model to improve and standardize clinical breakpoints for antimicrobial susceptibility testing using forecast probabilities. J Antimicrob Chemother. 2017 Sep 1;72(9):2553-2561. doi: 10.1093/jac/dkx196.

Hombach M, Jetter M, Keller PM, Blöchliger N, Kolesnik-Goldmann N, Böttger EC. Rapid detection of ESBL, carbapenemases, MRSA and other important resistance phenotypes within 6-8 h by automated disc diffusion antibiotic susceptibility testing. J Antimicrob Chemother. 2017 Nov 1;72(11):3063-3069. doi: 10.1093/jac/dkx256.

Hombach M, Jetter M, Blöchliger N, Kolesnik-Goldmann N, Böttger EC. Fully automated disc diffusion for rapid antibiotic susceptibility test results: a proof-of-principle study. *J Antimicrob Chemother.* 2017 Jun 1;72(6):1659-1668. doi: 10.1093/jac/dkx026.

Sati GC, Shcherbakov D, Hobbie SN, Vasella A, Böttger EC, Crich D. N6', N6'', and O4' Modifications to Neomycin Affect Ribosomal Selectivity without Compromising Antibacterial Activity. *ACS Infect Dis.* 2017 May 12;3(5):368-377. doi: 10.1021/acsinfecdis.6b00214. Epub 2017 Apr 6.

Liu J, Bruhn DF, Lee RB, Zheng Z, Janusic T, Scherbakov D, Scherman MS, Boshoff HI, Das S, Rakesh, Waidyarachchi SL, Brewer TA, Gracia B, Yang L, Bollinger J, Robertson GT, Meibohm B, Lenaerts AJ, Ainsa J, Böttger EC, Lee RE. Structure-Activity Relationships of Spectinamide Antituberculosis Agents: A Dissection of Ribosomal Inhibition and Native Efflux Avoidance Contributions. *ACS Infect Dis.* 2017 Jan 13;3(1):72-88. doi: 10.1021/acsinfecdis.6b00158. Epub 2016 Nov 11.

Becker K, Haldimann K, Selchow P, Reinau LM, Dal Molin M, Sander P. Lipoprotein Glycosylation by Protein-O-Mannosyltransferase (MAB_1122c) Contributes to Low Cell Envelope Permeability and Antibiotic Resistance of *Mycobacterium abscessus*. *Front Microbiol.* 2017 Nov 2;8:2123. doi: 10.3389/fmicb.2017.02123. eCollection 2017.

Rominski A, Schulthess B, Müller DM, Keller PM, Sander P. Effect of β -lactamase production and β -lactam instability on MIC testing results for *Mycobacterium abscessus*. *J Antimicrob Chemother.* 2017 Nov 1;72(11):3070-3078. doi: 10.1093/jac/dkx284.

Rominski A, Selchow P, Becker K, Brülle JK, Dal Molin M, Sander P. Elucidation of *Mycobacterium abscessus* aminoglycoside and capreomycin resistance by targeted deletion of three putative resistance genes. *J Antimicrob Chemother.* 2017 Aug 1;72(8):2191-2200. doi: 10.1093/jac/dkx125.

Rominski A, Roditscheff A, Selchow P, Böttger EC, Sander P. Intrinsic rifamycin resistance of *Mycobacterium abscessus* is mediated by ADP-ribosyltransferase MAB_0591. *J Antimicrob Chemother.* 2017 Feb;72(2):376-384. doi: 10.1093/jac/dkw466. Epub 2016 Dec 20.

Matt U, Selchow P, Dal Molin M, Strommer S, Sharif O, Schilcher K, Andreoni F, Stenzinger A, Zinkernagel AS, Zeitlinger M, Sander P, Nemeth J. Chloroquine enhances the antimycobacterial activity of isoniazid and pyrazinamide by reversing inflammation-induced macrophage efflux. *Int J Antimicrob Agents.* 2017 Jul;50(1):55-62. doi: 10.1016/j.ijantimicag.2017.02.022. Epub 2017 May 12.

Bärlocher K, Hutter CAJ, Swart AL, Steiner B, Welin A, Hohl M, Letourneur F, Seeger MA, Hilbi H. Structural insights into *Legionella* RidL-Vps29 retromer subunit interaction reveal displacement of the regulator TBC1D5. *Nat Commun.* 2017 Nov 16;8(1):1543. doi: 10.1038/s41467-017-01512-5.

Steiner B, Swart AL, Welin A, Weber S, Personnic N, Kaech A, Freyre C, Ziegler U, Klemm RW, Hilbi H. ER remodeling by the large GTPase atlastin promotes vacuolar growth of *Legionella pneumophila*. *EMBO Rep.* 2017 Oct;18(10):1817-1836. doi: 10.15252/embr.201743903. Epub 2017 Aug 23.

Escoll P, Song OR, Viana F, Steiner B, Lagache T, Olivo-Marin JC, Impens F, Brodin P, Hilbi H, Buchrieser C. *Legionella pneumophila* Modulates Mitochondrial Dynamics to Trigger Metabolic Repurposing of Infected Macrophages. *Cell Host Microbe.* 2017 Sep 13;22(3):302-316.e7. doi: 10.1016/j.chom.2017.07.020. Epub 2017 Aug 31.

Ouertatani-Sakouhi H, Kicka S, Chiriano G, Harrison CF, Hilbi H, Scapozza L, Soldati T, Cosson P. Inhibitors of *Mycobacterium marinum* virulence identified in a *Dictyostelium discoideum* host model. *PLoS One.* 2017 Jul 20;12(7):e0181121. doi: 10.1371/journal.pone.0181121. eCollection 2017.

Schmölders J, Manske C, Otto A, Hoffmann C, Steiner B, Welin A, Becher D, Hilbi H. Comparative Proteomics of Purified Pathogen Vacuoles Correlates Intracellular Replication of *Legionella pneumophila* with the Small GTPase Ras-related protein 1 (Rap1). *Mol Cell Proteomics.* 2017 Apr;16(4):622-641. doi: 10.1074/mcp.M116.063453. Epub 2017 Feb 9.

Hürlimann LM, Hohl M, Seeger MA. Split tasks of asymmetric nucleotide-binding sites in the heterodimeric ABC exporter EfrCD. *FEBS J.* 2017 Jun;284(11):1672-1687. doi: 10.1111/febs.14065. Epub 2017 Apr 18.

Timachi MH, Hutter CA, Hohl M, Assafa T, Böhm S, Mittal A, Seeger MA, Bordignon E. Exploring conformational equilibria of a heterodimeric ABC transporter. *Elife.* 2017 Jan 4;6. pii: e20236. doi: 10.7554/eLife.20236.

Kramer L, Renko M, Završnik J, Turk D, Seeger MA, Vasiljeva O, Grütter MG, Turk V, Turk B. Non-invasive in vivo imaging of tumour-associated cathepsin B by a highly selective inhibitory DARPin. *Theranostics.* 2017 Jul 8;7(11):2806-2821. doi: 10.7150/thno.19081. eCollection 2017.

Fudrini Olivencia B, Müller AU, Roschitzki B, Burger S, Weber-Ban E, Imkamp F. *Mycobacterium smegmatis* PafBC is involved in regulation of DNA damage response. *Sci Rep.* 2017 Oct 25;7(1):13987. doi: 10.1038/s41598-017-14410-z.

Bloemberg GV, Braun-Kiewnick A, Tedrup J, Meijerink C, Durer E, Ritter C, Keller PM, Hombach M. Evaluation of the AID carbapenemase line probe assay for rapid detection and identification of carbapenemase genes in Gram-negative bacilli. *J Antimicrob Chemother.* 2017 Jul 1;72(7):1948-1954. doi: 10.1093/jac/dkx100.

Redondo JJ, Keller PM, Zbinden R, Wagner K. A novel RT-PCR for the detection of *Helicobacter pylori* and identification of clarithromycin resistance mediated by mutations in the 23S rRNA gene. *Diagn Microbiol Infect Dis.* 2018 Jan;90(1):1-6. doi: 10.1016/j.diagmicrobio.2017.09.014. Epub 2017 Sep 25.

- Schreiber PW, Köhler N, Cervera R, Hasse B, Sax H, Keller PM. Detection limit of *Mycobacterium chimaera* in water samples for monitoring medical device safety: insights from a pilot experimental series. *J Hosp Infect.* 2017 Nov 21. pii: S0195-6701(17)30633-3. doi: 10.1016/j.jhin.2017.11.007. [Epub ahead of print]
- Hombach M, Weissert C, Senn MM, Zbinden R. Comparison of phenotypic methods for the detection of penicillinase in *Staphylococcus aureus* and proposal of a practical diagnostic approach. *J Antimicrob Chemother.* 2017 Apr 1;72(4):1089-1093. doi: 10.1093/jac/dkw521.
- Blodkamp S, Kadlec K, Gutschmann T, Quiblier C, Naim HY, Schwarz S, von Köckritz-Blickwede M. Effects of SecDF on the antimicrobial functions of cathelicidins against *Staphylococcus aureus*. *Vet Microbiol.* 2017 Feb;200:52-58. doi: 10.1016/j.vetmic.2016.03.021. Epub 2016 Mar 31.
- Meyer Sauter PM, Marques-Maggio E, Relly C, Keller PM, Clarenbach CF, Berger C. Asymptomatic congenital tuberculosis: A case report. *Medicine (Baltimore).* 2017 Jul;96(29):e7562. doi: 10.1097/MD.00000000000007562.
- Abela IA, Murer C, Schuurmans MM, Schmitt JW, Muller F, Imkamp F, Mueller NJ, Benden C. A cluster of scedosporiosis in lung transplant candidates and recipients: The Zurich experience and review of the literature. *Transpl Infect Dis.* 2018 Feb;20(1). doi: 10.1111/tid.12792. Epub 2017 Nov 27.
- Peña C, Hurt E, Panse VG. Eukaryotic ribosome assembly, transport and quality control. *Nat Struct Mol Biol.* 2017 Sep 7;24(9):689-699. doi: 10.1038/nsmb.3454.
- Bärlocher K, Welin A, Hilbi H. Formation of the *Legionella* Replicative Compartment at the Crossroads of Retrograde Trafficking. *Front Cell Infect Microbiol.* 2017 Nov 24;7:482. doi: 10.3389/fcimb.2017.00482. eCollection 2017.
- Personnic N, Striednig B, Hilbi H. *Legionella* quorum sensing and its role in pathogen-host interactions. *Curr Opin Microbiol.* 2017 Nov 27;41:29-35. doi: 10.1016/j.mib.2017.11.010. [Epub ahead of print]
- Steiner B, Weber S, Hilbi H. Formation of the *Legionella*-containing vacuole: phosphoinositide conversion, GTPase modulation and ER dynamics. *Int J Med Microbiol.* 2017 Aug 16. pii: S1438-4221(17)30291-6. doi: 10.1016/j.ijmm.2017.08.004. [Epub ahead of print]
- Hilbi H, Kortholt A. Role of the small GTPase Rap1 in signal transduction, cell dynamics and bacterial infection. *Small GTPases.* 2017 Jun 20:1-7. doi: 10.1080/21541248.2017.1331721. [Epub ahead of print]
- Hochstrasser R, Hilbi H. Intra-Species and Inter-Kingdom Signaling of *Legionella pneumophila*. *Front Microbiol.* 2017 Feb 3;8:79. doi: 10.3389/fmicb.2017.00079. eCollection 2017.

Seeger MA. Membrane transporter research in times of countless structures. *Biochim Biophys Acta*. 2018 Apr;1860(4):804-808. doi: 10.1016/j.bbamem.2017.08.009. Epub 2017 Aug 31.

Schön T, Miotto P, Köser CU, Viveiros M, Böttger E, Cambau E. Mycobacterium tuberculosis drug-resistance testing: challenges, recent developments and perspectives. *Clin Microbiol Infect*. 2017 Mar;23(3):154-160. doi: 10.1016/j.cmi.2016.10.022. Epub 2016 Nov 1.

Kaufmann SHE, Dockrell HM, Drager N, Ho MM, McShane H, Neyrolles O, Ottenhoff THM, Patel B, Roordink D, Spertini F, Stenger S, Thole J, Verreck FAW, Williams A; TBVAC2020 Consortium. TBVAC2020: Advancing Tuberculosis Vaccines from Discovery to Clinical Development. *Front Immunol*. 2017 Oct 4;8:1203. doi: 10.3389/fimmu.2017.01203. eCollection 2017.

5. *Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms⁹ and/or toxins studied, as well as outdoor studies of biological aerosols.*

The Institute of Medical Microbiology at the University of Zurich is the Regional Competence Center for the primary analysis of bacteriological samples suspicious of a bioterror-related background. This represents an additional and not a continuous task of the diagnostics laboratory proficient in bacteriology, mycology and serology.

For further information please visit (website in German):

<http://www.imm.uzh.ch/index.html>

⁹ Including viruses and prions.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Regionales Kompetenzzentrum – Regionallabor Ost (ZH) (Regional Competence Center – Regional Laboratory East (ZH))
Authority	Amt für Abfall, Wasser, Energie und Luft, Baudirektion, Kanton Zürich (Office for Waste, Water, Energy and Air, Directorate of Construction, Canton of Zurich)
Name of facility	Institut für Medizinische Virologie (Institute of Medical Virology)
Affiliation	Medizinische Fakultät, Universität Zürich (Faculty of Medicine, University of Zurich)

2. *Where is it located (include both address and geographical location)?*

Location	Winterthurerstrasse 190 CH-8057 Zürich
Geographical location	N 47° 23' 52.08", E 8° 33' 01.92"

3. *Floor area of laboratory areas by containment level:*

BSL2	0 m ²
BSL3	25 m ²
BSL3Ag	0 m ²
BSL4	0 m ²
Total	25 m ²

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

2

(ii) *Division of personnel:*

Military	0
Civilian	2

(iii) *Division of personnel by category:*

Scientists	1
Engineers	0
Technicians	1
Administrative and support staff	0

(iv) *List the scientific disciplines represented in the scientific/engineering staff.*

Microbiology (virology)

(v) *Are contractor staff working in the facility? If so, provide an approximate number.*

0

(vi) *What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?*

Cantons of Appenzell Ausserrhoden, Appenzell Innerrhoden, Glarus, Graubünden, Sankt Gallen, Schaffhausen, Thurgau, Zug, Zürich, and the Principality of Liechtenstein

(vii) *What are the funding levels for the following programme areas:*

Research	0 %
Development	0 %
Test & Evaluation	10 %
Analysis / Diagnosis	80 %
Education & Training	10 %
Other activities	0 %

(viii) *Briefly describe the publication policy of the facility:*

Publication in open literature

(ix) *Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)*

List of publicly available papers and reports published in 2017:

Wittkop L, Arsandaux J, Trevino A, Schim van der Loeff M, Anderson J, van Sighem A, Böni J, Brun-Vezinet F, Soriano V, Boufassa F, Brockmeyer N, Calmy A, Dabis F, Jarrin I, Dorrucci M, Duque V, Fätkenheuer G, Zangerle R, Ferrer E, Porter K, Judd A, Sipsas NV, Lambotte O, Shepherd L, Leport C, Morrison C, Mussini C, Obel N, Ruelle J, Schwarze-Zander C, Sonnerborg A, Teira R, Torti C, Valadas E, Colin C, Friis-Møller N, Costagliola D, Thiebaut R, Chene G, Matheron S; COHERE in EuroCoord and ACHIEV2e Study Group. CD4 cell count response to first-line combination ART in HIV-2+ patients compared with HIV-1+ patients: a multinational, multicohort European study. *J Antimicrob Chemother.* 2017 Oct 1;72(10):2869-2878. doi: 10.1093/jac/dkx210.

Turk T, Bachmann N, Kadelka C, Böni J, Yerly S, Aubert V, Klimkait T, Battegay M, Bernasconi E, Calmy A, Cavassini M, Furrer H, Hoffmann M, Günthard HF, Kouyos RD; Swiss HIV Cohort Study, Aubert V, Battegay M, Bernasconi E, Böni J, Braun DL, Bucher HC, Calmy A, Cavassini M, Ciuffi A, Dollenmaier G, Egger M, Elzi L, Fehr J, Fellay J, Furrer H, Fux CA, Günthard HF, Haerry D, Hasse B, Hirsch HH, Hoffmann M, Hösli I, Kahlert C, Kaiser L, Keiser O, Klimkait T, Kouyos RD, Kovari H, Ledergerber B, Martinetti G, Martinez de Tejada B, Marzolini C, Metzner KJ, Müller N, Nicca D, Pantaleo G, Paioni P, Rauch A, Rudin C, Scherrer AU, Schmid P, Speck R, Stöckle M, Tarr P, Trkola A, Vernazza P, Wandeler G, Weber R, Yerly S. Assessing the danger of self-sustained HIV epidemics in heterosexuals by population based phylogenetic cluster analysis. *Elife.* 2017 Sep 12;6. pii: e28721. doi: 10.7554/eLife.28721.

Lewandowska DW, Zagordi O, Geissberger FD, Kufner V, Schmutz S, Böni J, Metzner KJ, Trkola A, Huber M. Optimization and validation of sample preparation for metagenomic sequencing of viruses in clinical samples. *Microbiome.* 2017 Aug 8;5(1):94. doi: 10.1186/s40168-017-0317-z. Erratum in: *Microbiome.* 2017 Oct 12;5(1):137.

Lewandowska DW, Schreiber PW, Schuurmans MM, Ruehe B, Zagordi O, Bayard C, Greiner M, Geissberger FD, Capaul R, Zbinden A, Böni J, Benden C, Mueller NJ, Trkola A, Huber M. Metagenomic sequencing complements routine diagnostics in identifying viral pathogens in lung transplant recipients with unknown etiology of respiratory infection. *PLoS One.* 2017 May 23;12(5):e0177340. doi: 10.1371/journal.pone.0177340. eCollection 2017.

Bachmann N, Turk T, Kadelka C, Marzel A, Shilaih M, Böni J, Aubert V, Klimkait T, Leventhal GE, Günthard HF, Kouyos R; Swiss HIV Cohort Study. Parent-offspring regression to estimate the heritability of an HIV-1 trait in a realistic setup. *Retrovirology*. 2017 May 23;14(1):33. doi: 10.1186/s12977-017-0356-3.

Akers IE, Weber R, Sax H, Böni J, Trkola A, Kuster SP. Influence of time to diagnosis of severe influenza on antibiotic use, length of stay, isolation precautions, and mortality: a retrospective study. *Influenza Other Respir Viruses*. 2017 Jul;11(4):337-344. doi: 10.1111/irv.12454. Epub 2017 May 12.

Marzel A, Shilaih M, Turk T, Campbell NK, Yang WL, Böni J, Yerly S, Klimkait T, Aubert V, Furrer H, Calmy A, Battegay M, Cavassini M, Bernasconi E, Schmid P, Metzner KJ, Günthard HF, Kouyos RD; Swiss HIV Cohort Study (SHCS). Mining for pairs: shared clinic visit dates identify steady HIV-positive partnerships. *HIV Med*. 2017 Oct;18(9):667-676. doi: 10.1111/hiv.12507. Epub 2017 Apr 4.

Kletenkov K, Hoffmann D, Böni J, Yerly S, Aubert V, Schöni-Affolter F, Struck D, Verheyen J, Klimkait T; Swiss HIV Cohort Study. Role of Gag mutations in PI resistance in the Swiss HIV cohort study: bystanders or contributors? *J Antimicrob Chemother*. 2017 Mar 1;72(3):866-875. doi: 10.1093/jac/dkw493.

Huber M, Metzner KJ, Geissberger FD, Shah C, Leemann C, Klimkait T, Böni J, Trkola A, Zagordi O. MinVar: A rapid and versatile tool for HIV-1 drug resistance genotyping by deep sequencing. *J Virol Methods*. 2017 Feb;240:7-13. doi: 10.1016/j.jviromet.2016.11.008. Epub 2016 Nov 17.

Bader J, Däumer M, Schöni-Affolter F, Böni J, Gorgievski-Hrisoho M, Martinetti G, Thielen A, Klimkait T; Swiss HIV Cohort Study. Therapeutic Immune Recovery and Reduction of CXCR4-Tropic HIV-1. *Clin Infect Dis*. 2017 Feb 1;64(3):295-300. doi: 10.1093/cid/ciw737. Epub 2016 Nov 12.

5. *Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms⁹ and/or toxins studied, as well as outdoor studies of biological aerosols.*

The Institute of Medical Virology at the University of Zurich is the Regional Competence Center for the primary analysis of viral samples suspicious of a bioterror-related background. This represents an additional and not a continuous task of the viral diagnostics laboratory.

For further information please visit: http://www.virology.uzh.ch/index_en.html

⁹ Including viruses and prions.

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Regionales Kompetenzzentrum – Regionallabor Nord (BS) (Regional Competence Center – Regional Laboratory North (BS))
Authority	Kantonales Laboratorium Basel-Stadt, Kanton Basel-Stadt (Cantonal Laboratory of Basel-Stadt, Canton of Basel-Stadt)
Name of facility	Kantonales Laboratorium Basel-Stadt (Cantonal Laboratory of Basel-Stadt)
Affiliation	Bereich Gesundheitsschutz, Gesundheitsdepartement, Kanton Basel-Stadt (Health Protection Division, Public Health Department, Canton of Basel-Stadt)

2. *Where is it located (include both address and geographical location)?*

Location	Kannenfeldstrasse 2 CH-4056 Basel
Geographical location	N 47° 33' 43.48", E 7° 34' 26.85"

3. *Floor area of laboratory areas by containment level:*

BSL2	14 m ²
BSL3	36 m ²
BSL3Ag	0 m ²
BSL4	0 m ²
Total	50 m ²

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

4

(ii) *Division of personnel:*

Military	0
Civilian	4

(iii) *Division of personnel by category:*

Scientists	2
Engineers	0
Technicians	2
Administrative and support staff	0

(iv) *List the scientific disciplines represented in the scientific/engineering staff.*

Microbiology, molecular biology, chemistry, inspection

(v) *Are contractor staff working in the facility? If so, provide an approximate number.*

0

(vi) *What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?*

Cantons of Aargau, Basel-Landschaft, Basel-Stadt, Solothurn

(vii) *What are the funding levels for the following programme areas:*

Research	0 %
Development	15 %
Test & Evaluation	40 %
Analysis / Diagnosis	40 %
Education & Training	5 %
Other activities	0 %

(viii) *Briefly describe the publication policy of the facility:*

Publication in open literature

(ix) *Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)*

List of publicly available papers and reports published in 2017:

Wichmann F, Wyrsch I, Frank J, Müller M, Bertschi N, Brodmann P, Bagutti C. Monitoring of genetically modified *Escherichia coli* in laboratory wastewater. *Environ Sci Pollut Res Int*. 2017 Oct;24(30):23725-23734. doi: 10.1007/s11356-017-0021-3. Epub 2017 Sep 1.

Zurfluh K, Bagutti C, Brodmann P, Alt M, Schulze J, Fanning S, Stephan R, Nüesch-Inderbinnen M. Wastewater is a reservoir for clinically relevant carbapenemase- and 16s rRNA methylase-producing *Enterobacteriaceae*. *Int J Antimicrob Agents*. 2017 Sep;50(3):436-440. doi: 10.1016/j.ijantimicag.2017.04.017. Epub 2017 Jun 28.

5. *Briefly describe the biological defence work carried out at the facility, including type(s) of microorganisms⁹ and/or toxins studied, as well as outdoor studies of biological aerosols.*

The Cantonal Laboratory of Basel-Stadt is the Regional Competence Center for the primary analysis of samples suspicious of a bioterror-related background. The Regional Laboratory North is also appointed reference laboratory by the Federal Office of Environment for the two following fields of activities: Analysis of samples taken in and around laboratories subjected to the Containment Ordinance, and analysis of samples taken in the environment for the surveillance of the Release Ordinance.

The Cantonal Laboratory of Basel-Stadt has been co-author for the "Chemical Inactivation of Organisms in Liquids - Guidelines for the chemical inactivation of organisms in liquid cultures or supernatants with proof of efficacy and safe disposal" and is working out specific SOP for chemical inactivation of microorganisms attn. Federal Office of Public Health FOPH.

Microbiological and molecular biological methods have been established for the identification of a wide range of microorganisms in environmental samples, including relevant pathogens such as *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Bacillus anthracis*, as well as adenoviruses and lentiviruses. Further methods for the detection of bioterror agents have been implemented according to the Regional Laboratory Network.

⁹ Including viruses and prions.

Switzerland

Form A, part 2 (iii)

For further information please visit (website in German):
<http://www.kantonslabor.bs.ch/>

National biological defence research and development programmes – Facilities

1. *What is the name of the facility?*

Title / Function	Centro Regionale di Competenza – Laboratorio Regionale Sud (TI) (Regional Competence Center – Regional Laboratory South (TI))
Authority	Laboratorio Microbiologia Applicata, Scuola Universitaria Professionale della Svizzera Italiana (Laboratory of Applied Microbiology, University of Applied Sciences of Southern Switzerland)
Name of facility	Laboratorio Microbiologia Applicata (Laboratory of Applied Microbiology)
Affiliation	Dipartimento Ambiente Costruzioni e Design, Scuola Universitaria Professionale della Svizzera Italiana (Department for Environment, Constructions and Design, University of Applied Sciences of Southern Switzerland)

2. *Where is it located (include both address and geographical location)?*

Location	Via Mirasole 22A CH-6500 Bellinzona
Geographical location	N46° 11' 53.50", E9° 1' 10.25"

3. *Floor area of laboratory areas by containment level:*

BSL2	185 m ²
BSL3	38 m ²
BSL3Ag	0 m ²
BSL4	0 m ²
Total	223 m ²

4. *The organizational structure of each facility.*

(i) *Total number of personnel*

4

(ii) *Division of personnel:*

Military	0
Civilian	4

(iii) *Division of personnel by category:*

Scientists	3
Engineers	0
Technicians	1
Administrative and support staff	0

(iv) *List the scientific disciplines represented in the scientific/engineering staff.*

Bacteriology, mycology, molecular microbiology, microbial ecology, entomology, vector biology

(v) *Are contractor staff working in the facility? If so, provide an approximate number.*

0

(vi) *What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?*

Canton of Ticino

(vii) *What are the funding levels for the following programme areas:*

Research	10 %
Development	10 %
Test & Evaluation	30 %
Analysis / Diagnosis	30 %
Education & Training	5 %
Other activities	15 % (administrative and maintenance costs)

(viii) *Briefly describe the publication policy of the facility:*

Publication in open literature

(ix) *Provide a list of publicly-available papers and reports resulting from the work published during the previous 12 months. (To include authors, titles and full references.)*

List of publicly available papers and reports published in 2017:

Danza F, Storelli N, Roman S, Lüdin S, Tonolla M. Dynamic cellular complexity of anoxygenic phototrophic sulfur bacteria in the chemocline of meromictic Lake Cadagno. PLoS One. 2017 Dec 15;12(12):e0189510. doi: 10.1371/journal.pone.0189510. eCollection 2017.

Lauceri R, Austoni M, Caviglia F, Kamburska L, Lami A, Morabito G, Pflüger V, Silva Benavides A, Tonolla M, Torzillo G, Riccardi N. Coupling a bio-accumulator organism and MALDI-TOF MS: an early warning detection system for microcystins in water bodies. Journal Applied Phycology, 2017;29(6):2979-88.

Melera S, Ostellari C, Roemer N, Avis PG, Tonolla M, Barja F, Narduzzi-Wicht B. Analysis of morphological, ecological and molecular characters of *Russula pectinatoides* Peck and *Russula praetervisa* Sarnari, with a description of the new taxon *Russula recondite* Melera & Ostellari. Mycological Progress. 2017;16(2):117-34.

Posth NR, Bristow LA, Cox RP, Habicht KS, Danza F, Tonolla M, Frigaard NU, Canfield DE. Carbon isotope fractionation by anoxygenic phototrophic bacteria in euxinic Lake Cadagno. Geobiology. 2017 Nov;15(6):798-816. doi: 10.1111/gbi.12254. Epub 2017 Sep 3.

Sommer T, Danza F, Berg J, Sengupta A, Costantinescu G, Tokyay T, Bürgmann H, Dressler Y, Sepúlveda Steiner OR, Schubert C, Tonolla M, Wüest A. Bacteria-induced mixing in natural waters. Geophysical Research Letters. 2017;44(18):9424–32.

Tonolla M, Storelli N, Danza F, Ravasi D, Peduzzi S, Posth N, Cox RP, Jørgensen MF, Gregersen LH, Niels Daugbjerg N, Frigaard NU. Lake Cadagno, Microbial Life in Crenogenic Meromixis (Chapter 7). In: Gulati RD, Zadereev ES, Degermendzhi AG (eds.). Ecology of Meromictic Lakes. Ecological Studies. Springer 2017. p228.

5. *Briefly describe the biological defence work carried out at the facility, including type(s) of micro-organisms⁹ and/or toxins studied, as well as outdoor studies of biological aerosols.*

The Laboratory of Applied Microbiology is the Regional Competence Center South of the Alps responsible for the primary analysis of samples suspicious of a bioterror-related background.

For further information please visit (website in Italian): <http://www.supsi.ch/lma>

⁹ Including viruses and prions.

Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins

At the Third Review Conference it was agreed that States Parties continue to implement the following:

Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins, and on all such events that seem to deviate from the normal pattern as regards type, development, place, or time of occurrence. The information provided on events that deviate from the norm will include, as soon as it is available, data on the type of disease, approximate area affected, and number of cases.

The Seventh Review Conference agreed the following:

No universal standards exist for what might constitute a deviation from the normal pattern.

Modalities

The Third Review Conference agreed on the following, later amended by the Seventh Review Conference:

1. *Exchange of data on outbreaks that seem to deviate from the normal pattern is considered particularly important in the following cases:*

- *When the cause of the outbreak cannot be readily determined or the causative agent¹⁰ is difficult to diagnose,*
- *When the disease may be caused by organisms which meet the criteria for risk groups III or IV, according to the classification in the latest edition of the WHO Laboratory Biosafety Manual,*
- *When the causative agent is exotic to a given geographical region,*
- *When the disease follows an unusual pattern of development,*
- *When the disease occurs in the vicinity of research centres and laboratories subject to exchange of data under item A,*
- *When suspicions arise of the possible occurrence of a new disease.*

¹⁰ It is understood that this may include organisms made pathogenic by molecular biology techniques, such as genetic engineering.

2. *In order to enhance confidence, an initial report of an outbreak of an infectious disease or a similar occurrence that seems to deviate from the normal pattern should be given promptly after cognizance of the outbreak and should be followed up by annual reports. To enable States Parties to follow a standardized procedure, the Conference has agreed that Form B should be used, to the extent information is known and/or applicable, for the exchange of annual information.*
3. *The declaration of electronic links to national websites or to websites of international, regional or other organizations which provide information on disease outbreaks (notably outbreaks of infectious diseases and similar occurrences caused by toxins that seem to deviate from the normal pattern) may also satisfy the declaration requirement under Form B.*
4. *In order to improve international cooperation in the field of peaceful bacteriological (biological) activities and in order to prevent or reduce the occurrence of ambiguities, doubts and suspicions, States Parties are encouraged to invite experts from other States Parties to assist in the handling of an outbreak, and to respond favourably to such invitations, respecting applicable national legislation and relevant international instruments.*

Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins

Human diseases

The Swiss Federal Office of Public Health (FOPH) is responsible for the surveillance and reporting of human diseases. A nationwide notification system is regulated by the Ordinance on the Declaration of Observations of Communicable Human Diseases (*RS 818.101.126 Ordonnance du DFI du 1 décembre 2015 sur la déclaration d'observations en rapport avec les maladies transmissibles de l'homme*), which is based on the Federal Act on the Control of Communicable Human Diseases (*RS 818.101 Loi fédérale du 28 septembre 2012 sur la lutte contre les maladies transmissibles de l'homme*). Every medical practitioner and laboratory is obliged to report the occurrence or identification of certain notifiable diseases. The current situation is accessible online and data is transmitted to the World Health Organization (WHO).

<https://www.bag.admin.ch/bag/fr/home/service/zahlen-fakten/zahlen-zu-infektionskrankheiten.html>

Animal diseases

The Swiss Federal Food Safety and Veterinary Office (FSVO) is responsible for the surveillance and reporting of animal diseases. According to the Federal Law on Animal Epidemics (*RS 916.40 Loi du 1er juillet 1966 sur les épizooties*) and the corresponding ordinance (*RS 916.401 Ordonnance du 27 juin 1995 sur les épizooties*), notifiable animal diseases have to be reported to the FSVO, which in turn is responsible for the reporting to the World Organization for Animal Health (OIE). The current situation is accessible online.

(<http://www.infosm.blv.admin.ch/public/bulletin/aktuell>)

Plant diseases and pests

The Swiss Federal Plant Protection Service (FPPS) is responsible for any kind of phytosanitary measures in order to prevent the introduction and spread of particularly harmful pests and diseases that affect plants and plant products. The FPPS is run jointly by the Swiss Federal Office for Agriculture (FOAG) and the Swiss Federal Office for the Environment (FOEN). The FOAG is responsible for the sector of agricultural and horticultural crops, whereas the FOEN is responsible for forest plants, wood and wood products, including invasive plants. According to the Federal Law on Agriculture (*RS 910.1 Loi fédérale du 29 avril 1998 sur l'agriculture*) and the corresponding ordinance (*RS 916.20 Ordonnance du 27 octobre 2010 sur la protection des végétaux*), notifiable plant diseases and pests are reported to either the FOAG or the FOEN that transmit reports to the European and Mediterranean Plant Protection Organization (EPPO). Reporting of invasive plants to the FOEN, which then communicates with the EPPO, is primarily regulated in the Ordinance on the Release of Organisms into the Environment (*RS 814.911 Ordonnance du 10 septembre 2008 sur l'utilisation d'organismes dans l'environnement*).

Information on outbreaks of infectious diseases
and similar occurrences that seem to deviate
from the normal pattern¹¹

Human diseases

No outbreaks of infectious diseases or similar occurrences that seemed to deviate from the normal pattern in terms of human diseases were observed during the reporting period.

¹¹ See paragraph 2 of the chapeau to Confidence-Building Measure B.

Information on outbreaks of infectious diseases and similar occurrences that seem to deviate from the normal pattern¹¹

Animal diseases

Information on outbreaks of infectious diseases and similar occurrences that seem to deviate from the normal pattern in terms of animal diseases that occurred during the reporting period is provided as follows:

1. A case of Anthrax in cattle was detected in Switzerland in 2017. This is the first report of Anthrax since 1997. The case was detected in the canton Jura in a region with known Anthrax cases in the past. The outbreak comprised 2 bovines out of a herd with 80 animals. Investigations revealed that the infection was caused by water contaminated by spores of *B. anthracis* from an ancient burying ground for fallen stock. The case herd was placed under restriction until all animals were tested negative. Samples from soil were also negative. The case has been notified to the World Organization for Animal Health (OIE).

http://www.oie.int/wahis_2/public/wahid.php/Reviewreport/Review?page_refer=MapFullEventReport&reportid=23717

2. Two cases of Bluetongue (BTV serotype 8) were detected in the annual surveillance programme for Bluetongue. It can be considered that the cases were caused by over the border infection from France due to the ongoing BTV-8 epidemic there. Following the detection of the cases, Switzerland declared the whole country as restriction area for BTV-8. All cases have been notified to the World Organization for Animal Health (OIE).

http://www.oie.int/wahis_2/public/wahid.php/Reviewreport/Review?page_refer=MapFullEventReport&reportid=25166

¹¹ See paragraph 2 of the chapeau to Confidence-Building Measure B.

3. One case of Equine Infectious Anemia was detected in 2017. The infection of the horse seems to be connected to other cases in several European Countries as these cases occurred in Polo-horses and a common source of probable infection could be linked to all horses. Restriction areas were temporally established and all Polo-horses in Switzerland were tested for EIA with negative results. The case has been notified to the World Organization for Animal Health (OIE).

http://www.oie.int/wahis_2/public/wahid.php/Reviewreport/Review?page_refer=MapFullEventReport&reportid=24249

4. Highly Pathogenic Avian influenza (HPAI) was detected in 2017 in wild birds in Switzerland. Two separate outbreaks were detected: One outbreak caused by serotype H5N6 and one by serotype H5N8. All positive birds were mute swans. Despite several birds were tested in the surveillance, only three birds tested positive, one for H5N6 and two for H5N8. Cases of these serotypes in wild birds were reported from several European Countries. All cases have been notified to the World Organization for Animal Health (OIE).

http://www.oie.int/wahis_2/public/wahid.php/Reviewreport/Review?page_refer=MapFullEventReport&reportid=24563

http://www.oie.int/wahis_2/public/wahid.php/Reviewreport/Review?page_refer=MapFullEventReport&reportid=25551

5. A case of Newcastle Disease was detected in a herd of laying hens on a farm with two herds. 3'000 birds were killed. Amplification of a genome region coding for the Fusion (F-) protein was possible from freshly extracted RNA by RT-PCR. Sequencing of the F-gene revealed a polybasic aminoacid motif (GRRQKR*F). Thus, sequence data identifies the virus as Newcastle Disease Virus (NDV), genotype 2.VII. Consequently, the virus is identified as a mesogen/velogen NDV. The case was resolved after implementation of all measures including cleaning and disinfection, zoning and testing of birds in the restriction zone. The case has been notified to the World Organization for Animal Health (OIE).

http://www.oie.int/wahis_2/public/wahid.php/Reviewreport/Review?page_refer=MapFullEventReport&reportid=25273

6. In August 2017 a serotine bat (*Eptesicus serotinus*), the major reservoir species of bat rabies in Europe) was diagnosed as rabies positive in FAT [fluorescent antibody test] at the Swiss Rabies Center. Confirmation in RTCIT [rabies tissue culture infection test], real-time RT-PCR and RT-PCR for partial sequencing of the N portion of the genome are under way. This bat, which was in a moribund state, fell to the feet of a person in broad daylight. Unfortunately, the person handled the bat and was bitten in the index finger when trying to liberate it in the evening of the same day. Active and passive post exposure prophylaxis was initiated the same day. The person stayed healthy. This is the 1st reoccurrence of bat rabies diagnosis in Switzerland since 2002 and presumably the 1st diagnosis of EBLV-1 in Switzerland. EBLV-1 is not reportable to the OIE. So far, out of 941 bats tested in the frame of passive surveillance since 1976, only 3 bats, all of the species *Myotis daubentoni*, were found positive in 1992, 1993 and 2002, respectively. Out of all bats tested, only 29 were serotine bats, indicating its rare interference with human settlements. Still this case reaffirms the public recommendation to handle bats with utmost caution. The case has been reported in an official press release of the canton Neuchâtel (in French) and on ProMED.

http://www.ne.ch/medias/Pages/170807_Cas-de-rage-découvert-sur-une-chauve-souris-dans-le-canton-de-Neuchâtel.aspx

<http://www.promedmail.org/post/20170804.5226670>

Information on outbreaks of infectious diseases
and similar occurrences that seem to deviate
from the normal pattern¹¹

Plant diseases and pests

Information on outbreaks of infectious diseases and similar occurrences that seem to deviate from the normal pattern in terms of plant diseases and pests that occurred during the reporting period is provided in the form of notifications made to the EU Commission by means of the EUROPHYT-Outbreak system as follows:

¹¹ See paragraph 2 of the chapeau to Confidence-Building Measure B.

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 185
Member State: CH - SWITZERLAND	2.1 - Notification from: SWISS FEDERAL PLANT PROTECTION SERVICE	2.2 - Official contact: PETER KUPFERSCHMIED peter.kupferschmied@blw.admin.ch +41 (0)58 462 25 90
Initial Notification date: 2017-01-06	National reference number: CH/SPPS/2017/1000 Update No. & Date: 00/2017-01-06	
1 - General Information		
1.1.1 - Title: First Outbreak (confirmed) of Ralstonia solanacearum race 1 in SWITZERLAND (Canton of Bern, Canton of Solothurn)		
1.1.2 - Scientific name: Ralstonia solanacearum race 1	1.1.3 - EPPO preferred name: Ralstonia solanacearum race 1	
1.1.4 - EU category of harmful organism: ANNEX I A II	1.1.5 - EPPO category of harmful organism: EPPO A2	
1.2.1 - Short summary of the information submitted in points 3-7: Ralstonia solanacearum (Smith) Yabuuchi et al. (race 1) was found at two sites of cut flower production of roses in the Canton of Bern and Canton of Solothurn, respectively. The pathogen was identified in several varieties of Rosa plants (Dail, Savannah, Alpe d'Huez, Hypnotic, and SR 75965) in greenhouses. The finding is a result of trace forward investigations after the Dutch NPPO provided the Swiss NPPO with a list of suspicious deliveries of Rosa plants from the Netherlands. The plants had been delivered by Dutch propagation companies between June 2015 and August 2016. Eradication measures will be taken, further plants will be tested and the survey will continue until the eradication of the infestations is guaranteed. The situation in three other companies with suspicious deliveries is currently still under investigation.		
1.3 - Type of presence reported: Outbreak (confirmed)		
3 - Location of presence of harmful organism		
3.1 - Administrative region of the location of presence of harmful organism		
1 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Espace Mittelland (CH02) Bern (CH021) [REDACTED]	
2 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Espace Mittelland (CH02) Solothurn (CH023) [REDACTED]	
Canton of Bern and Canton of Solothurn		
3.2 - Further information about location: "Please refer to boxes 6.1.4 and 7.3.2 where available"		
4 - Reason for notification of the harmful organism and the pest status of the area and the Member State concerned		
4.1 - Reason for the notification <input checked="" type="radio"/> First confirmed or suspected presence of the harmful organism in the territory of the Member State concerned. Neither the presence of R. solanacearum race 1 nor race 3 in the territory of Switzerland was previously known.		
4.2 - PEST STATUS of the AREA where the harmful organism has been found to be present, AFTER the OFFICIAL CONFIRMATION. <input checked="" type="radio"/> Transient: <input checked="" type="checkbox"/> actionable, under eradication		
4.3 - PEST STATUS in the MEMBER STATE concerned BEFORE the OFFICIAL CONFIRMATION of the presence, or suspected presence, of the harmful organism. <input checked="" type="radio"/> Absent: <input checked="" type="checkbox"/> no pest records		
4.4 - PEST STATUS in the MEMBER STATE concerned AFTER the OFFICIAL CONFIRMATION of the presence of the harmful organism. <input checked="" type="radio"/> Transient: <input checked="" type="checkbox"/> actionable, under eradication		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 185														
5 - Information relating to the finding, sampling, testing and confirmation of the harmful organism																
5.1 - How the presence or appearance of harmful organism was found <input checked="" type="checkbox"/> Trace back and forward inspection related to the specific presence of the harmful organism concerned Several inspections of the suspicious Rosa plants and other potential host plants took place between November 10th and December 14th 2016. Plants were visually inspected and samples of the stems of the plants as well as the irrigation water were taken for analysis in the laboratory.	5.2.1 - Date when the responsible official body found the presence or appearance of the harmful organism or received the first information concerning its finding. 2016-12-19 5.2.2 - Date of finding of the harmful organism by a person other than the responsible official body.															
5.3 - Sampling for laboratory analysis - Date of sampling: 2016-12-12 Between 2 and 10 % of the suspicious Rosa plants were sampled (stems). Additionally, 0.5 litre samples of the irrigation/recirculation water were taken.	5.4 - Laboratory(ies) involved in the identification of the harmful organism concerned: Agricultural research station Agroscope CP 1012 Nyon 1260 CH - SWITZERLAND Plant samples: DNA extraction and first screening by PCR was performed at the Zurich University of Applied Sciences (ZHAW) in Wädenswil.															
5.5 - Diagnostic method Other Screening of plant samples: DNA extraction from plant stems and screening by PCR (Seal et al. (1993), Pastrik and Maiss (2000), and race 1/2-specific primers). Confirmation of positive results by DNA sequencing (16S rRNA gene). Isolation and characterization of bacteria from positive samples according to Commission Directive 2006/63/CE for species and race identification. An additional pathogenicity test is currently carried out. Water samples: Filtering of the water (pore size 0.2 µm). Excision of the membrane and wash in sterile water to retrieve bacteria. Cultivation of the bacteria on SMSA medium and PCR screening of isolated colonies according to Commission Directive 2006/63/CE. 16S rRNA gene sequencing of PCR-positive bacterial colonies.	5.6 - Date of official confirmation of the harmful organism's identity 2017-01-05															
6 - Information related to the infested area, and the severity and source of the outbreak in that area																
6.1.1 - Size of surface																
6.1.2 - Number of infested plants 2300 pce																
6.1.3 - Volume of infested plant products																
6.1.4 - GPS key coordinates of the infested area																
<table border="0"> <thead> <tr> <th>Pattern/colour on the map</th> <th>Name of the area</th> <th>Characteristics of the zone</th> </tr> </thead> <tbody> <tr> <td colspan="3">Other specific description.</td> </tr> <tr> <td colspan="3">The number of infested plants and the size of the surface are currently still under investigation. Several thousand Rosa plants are potentially infested with <i>R. solanacearum</i>.</td> </tr> </tbody> </table>			Pattern/colour on the map	Name of the area	Characteristics of the zone	Other specific description.			The number of infested plants and the size of the surface are currently still under investigation. Several thousand Rosa plants are potentially infested with <i>R. solanacearum</i> .							
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6.2/6.3/6.4 - Information related to the infested area																
<table border="0"> <tbody> <tr> <td>Characteristics of infested area</td> <td>Physically closed conditions: greenhouse</td> </tr> <tr> <td>Host plant in the infested area</td> <td>Rosa</td> </tr> <tr> <td>Quantity/Unit</td> <td></td> </tr> <tr> <td>Type of element concerned by</td> <td>Other Plant</td> </tr> <tr> <td>Quantity/Unit infested</td> <td>2300 pce</td> </tr> <tr> <td>Comments on the host plant or</td> <td><i>R. solanacearum</i> was detected in Rosa varieties Dali, Savannah, Alpe d'Huez, Hypnotic, and SR 75965. The actual number of infested host plants is currently unknown and under investigation. More than 2.300 Rosa plants are potentially infested with <i>R. solanacearum</i> race 1.</td> </tr> <tr> <td>Comments on the infested area</td> <td>As no complete host plant list for race 1 of <i>R. solanacearum</i> is available there is no comprehensive information on possible host plants. The companies produce mainly roses for cut flower production. No self-propagation takes place in the companies.</td> </tr> </tbody> </table>			Characteristics of infested area	Physically closed conditions: greenhouse	Host plant in the infested area	Rosa	Quantity/Unit		Type of element concerned by	Other Plant	Quantity/Unit infested	2300 pce	Comments on the host plant or	<i>R. solanacearum</i> was detected in Rosa varieties Dali, Savannah, Alpe d'Huez, Hypnotic, and SR 75965. The actual number of infested host plants is currently unknown and under investigation. More than 2.300 Rosa plants are potentially infested with <i>R. solanacearum</i> race 1.	Comments on the infested area	As no complete host plant list for race 1 of <i>R. solanacearum</i> is available there is no comprehensive information on possible host plants. The companies produce mainly roses for cut flower production. No self-propagation takes place in the companies.
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6.5 - Vectors present in the area																

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 185
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
6.6 - Severity of the outbreak None of the Rosa varieties nor any other potential host plants in the greenhouses showed typical symptoms of infection with R. solanacearum. The irrigation water was tested negative for R. solanacearum. The severity of the outbreak in the concerned greenhouses can therefore not be fully estimated yet. Intensive testing of symptomless plants is currently being carried out.		
6.7 - Source of the outbreak The finding is a result of trace forward investigations after the Dutch NPPO provided the Swiss NPPO on November 2nd 2016 with a list of suspicious deliveries from the Netherlands between 2015 and 2016. The symptomless roses had been delivered by Dutch propagation companies between June 2015 and August 2016.		
7 - Official phytosanitary measures		
7.1 - Adoption of official phytosanitary measures <input checked="" type="checkbox"/> Official phytosanitary measures will be taken Destruction of plants from lots tested positively for R. solanacearum, hygiene measures (staff, equipment, etc.), disinfection/destruction of material that was in contact with the plants, testing of further plants and water, etc.		
7.2 - Date of adoption of the official phytosanitary measures		
7.3.1 - Size and delimitation of demarcated area and/or buffer zone Under investigation.		
7.3.2 - GPS key coordinates of demarcated area and/or buffer zone		
7.4 - Objective of the official phytosanitary measures <input checked="" type="checkbox"/> Eradication		
7.5 - Measures affecting the movement of goods <input checked="" type="checkbox"/> Measures affect import into or movement within the Union of goods The companies will be temporarily subjected to a prohibition of movements of relevant plants until successful eradication of the pest.		
7.6 - Specific surveys <input checked="" type="checkbox"/> Yes The survey (monitoring) in the greenhouses has been conducted since November 2016 and will continue until the eradication is guaranteed.		
8 - Pest risk analysis/assessment		
8 - Pest risk analysis/assessment <input checked="" type="checkbox"/> Pest risk analysis is not required (harmful organism is listed in Annex I or Annex II of Directive 2000/29/EC, or is subject to measures adopted pursuant to Article 16(3) of that Directive)		
9 - Links to relevant websites, other sources of information		
9 - Links to relevant websites, other sources of information		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 185
Member State: CH - SWITZERLAND	2.1 - Notification from: SWISS FEDERAL PLANT PROTECTION SERVICE	2.2 - Official contact: PETER KUPFFERSCHMIED peter.kupferschmied@blw.admin.ch +41 (0)58 462 25 90
Initial Notification date: 2017-01-06	National reference number: CH/SPPS/2017/1000 Update No. & Date: 01/2017-07-13	
1 - General Information		
1.1.1 - Title: Update no 1. Outbreak (confirmed) of Ralstonia solanacearum race 1 in SWITZERLAND (Cantons of Bern, Solothurn and Zurich)		
1.1.2 - Scientific name: Ralstonia solanacearum race 1	1.1.3 - EPPO preferred name: Ralstonia solanacearum race 1	
1.1.4 - EU category of harmful organism: ANNEX I A II	1.1.5 - EPPO category of harmful organism: EPPO A2	
1.2.1 - Short summary of the information submitted in points 3-7: Ralstonia solanacearum (Smith) Yabuuchi et al. (race 1) was found at five sites of cut flower production of roses in the Canton of Bern, Canton of Solothurn and Canton of Zurich, respectively. The pathogen was identified in greenhouses in several varieties of Rosa plants (including cv. Dali, Savannah, Alpe d'Huez, Hypnotic, Chicago, and Lazise). In addition, the bacterium was also detected in greenhouses on individual plants of Olea europaea and Strelitzia sp. which were irrigated with drain water from the infested roses, indicating that the pest was spread via irrigation water within the companies. The finding is a result of trace forward investigations after the Dutch NPPO provided the Swiss NPPO with a list of suspicious deliveries of Rosa plants from the Netherlands. The plants had been delivered by Dutch nurseries between June 2015 and August 2016. Eradication measures have been taken, including the destruction of host plants and the cleaning and disinfection of the greenhouses (incl. the irrigation systems). The effectiveness of the eradication measures will be tested with a monitoring program. Additionally, a detection survey will be carried out in the vicinity (open air) of the affected greenhouses.		
1.2.2 - Summary of information provided in this update: Since the first notification in January 2017, in which only two production sites with positive findings were reported, R. solanacearum (race 1) was found in three additional production sites that received suspicious Rosa plants from the Netherlands. In addition, information about the phytosanitary measures taken and the severity of the outbreak is provided in this update.		
1.3 - Type of presence reported: Outbreak (confirmed)		
3 - Location of presence of harmful organism		
3.1 - Administrative region of the location of presence of harmful organism		
1 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Espace Mittelland (CH02) Bern (CH021) [REDACTED]	
2 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Espace Mittelland (CH02) Bern (CH021) [REDACTED]	
3 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Espace Mittelland (CH02) Solothurn (CH023) [REDACTED]	
4 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Zürich (CH04) Zürich (CH040) [REDACTED]	

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 185
3 - Location of presence of harmful organism		
5 -	<p>NUTS I SCHWEIZ/SUISSE/SVIZZERA (CH0)</p> <p>NUTS II Zürich (CH04)</p> <p>NUTS III Zürich (CH040)</p> <p>Town/municipality</p> <p>Other</p>	
Canton of Bern, Canton of Solothurn and Canton of Zurich		
3.2 - Further information about location: "Please refer to boxes 6.1.4 and 7.3.2 where available"		
4 - Reason for notification of the harmful organism and the pest status of the area and the Member State concerned		
4.1 - Reason for the notification		
<input checked="" type="checkbox"/> First confirmed or suspected presence of the harmful organism in the territory of the Member State concerned. Neither the presence of <i>R. solanacearum</i> race 1 nor race 3 in the territory of Switzerland was previously known.		
4.2 - PEST STATUS of the AREA where the harmful organism has been found to be present, AFTER the OFFICIAL CONFIRMATION.		
<input checked="" type="checkbox"/> Transient: <input checked="" type="checkbox"/> actionable, under eradication		
4.3 - PEST STATUS in the MEMBER STATE concerned BEFORE the OFFICIAL CONFIRMATION of the presence, or suspected presence, of the harmful organism.		
<input checked="" type="checkbox"/> Absent: <input checked="" type="checkbox"/> no pest records		
4.4 - PEST STATUS in the MEMBER STATE concerned AFTER the OFFICIAL CONFIRMATION of the presence of the harmful organism.		
<input checked="" type="checkbox"/> Transient: <input checked="" type="checkbox"/> actionable, under eradication		
5 - Information relating to the finding, sampling, testing and confirmation of the harmful organism		
5.1 - How the presence or appearance of harmful organism was found	5.2.1 - Date when the responsible official body found the presence or appearance of the harmful organism or received the first information concerning its finding. 2016-12-19	
<input checked="" type="checkbox"/> Trace back and forward inspection related to the specific presence of the harmful organism concerned Several inspections of the suspicious <i>Rosa</i> plants and other potential host plants took place between November 10th and May 2017. Plants were visually inspected and samples of the stems of the plants as well as the irrigation water were taken for analysis in the laboratory.	5.2.2 - Date of finding of the harmful organism by a person other than the responsible official body.	
5.3 - Sampling for laboratory analysis - Date of sampling: 2016-12-12	5.4 - Laboratory(ies) involved in the identification of the harmful organism concerned:	
Depending on the greenhouse and defined lot, from 2% up to 50% of the suspicious <i>Rosa</i> plants (stems) were sampled between December 2016 and May 2017. Additionally, 0.5 litre samples of the irrigation water were taken.	Agricultural research station Agroscope CP 1012 Nyon 1260 CH - SWITZERLAND Plant samples: DNA extraction and first screening by PCR was performed at the Zurich University of Applied Sciences (ZHAW) in Wädenswil or by a private laboratory.	
5.5 - Diagnostic method	5.6 - Date of official confirmation of the harmful organism's identity	
Other Screening of plant samples: DNA extraction from plant stems and screening by PCR (Seal et al. (1993), Pastrik and Maiss (2000), and race 1/2-specific primers). Confirmation of positive results by DNA sequencing (16S rRNA gene). Isolation and characterization of bacteria from positive samples according to Commission Directive 2006/63/CE for species and race identification. An additional pathogenicity test was carried out with tomato plants. Samples of host plants of <i>R. solanacearum</i> in the greenhouses other than <i>Rosa</i> (e.g. <i>Olea europaea</i> and <i>Strelitzia</i> sp.) were analyzed with molecular methods (PCR and DNA sequencing) only. Water samples: Filtering of the water (pore size 0.2 µm). Excision of the membrane and wash in sterile water to retrieve bacteria. Cultivation of the bacteria on SMSA medium and PCR screening of isolated colonies according to Commission Directive 2006/63/CE. 16S rRNA gene sequencing of PCR-positive bacterial colonies.	2017-01-05	

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 185
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
6.1.1 - Size of surface		
6.1.2 - Number of infested plants		
6.1.3 - Volume of infested plant products		
6.1.4 - GPS key coordinates of the infested area		
Pattern/colour on the map	Name of the area	Characteristics of the zone
Other specific description.		
The number of infested plants and the size of the surface are currently still under investigation. Several thousand Rosa plants are potentially infested with <i>R. solanacearum</i> .		
Map_12680_1499864454.png		
<p>6.2/6.3/6.4 - Information related to the infested area</p> <p>Characteristics of infested area Physically closed conditions: greenhouse</p> <p>Host plant in the infested area Rosa</p> <p>Quantity/Unit 50000 pce</p> <p>Type of element concerned by Other Plant</p> <p>Quantity/Unit infested 50000 pce</p> <p>Comments on the host plant or <i>R. solanacearum</i> (race 1) was detected in greenhouses in several Rosa varieties (e.g. Dall, Savannah, Alpe d'Huez, Hypnotic, SR 75965, Chicago, and Lazise). The actual number of infested host plants remains unknown. Potentially approx. 50.000 Rosa plants were infested with <i>R. solanacearum</i>.</p> <p>Host plant in the infested area Strelitzia sp.</p> <p>Quantity/Unit</p> <p>Type of element concerned by Other Plant</p> <p>Quantity/Unit infested 2 pce</p> <p>Comments on the host plant or <i>R. solanacearum</i> (race 1) was detected with molecular methods on two individual plants of Strelitzia sp.</p> <p>Host plant in the infested area Olea europaea</p> <p>Quantity/Unit</p> <p>Type of element concerned by Other Plant</p> <p>Quantity/Unit infested 1 pce</p> <p>Comments on the host plant or <i>R. solanacearum</i> (race 1) was detected with molecular methods on a single olive tree.</p> <p>Comments on the infested area As no complete host plant list for race 1 of <i>R. solanacearum</i> is available there is no comprehensive information on possible host plants. The companies produce mainly roses for cut flower production. No self-propagation takes place in the companies.</p>		
6.5 - Vectors present in the area		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 185
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
<p>6.6 - Severity of the outbreak</p> <p>None of the Rosa varieties nor any other potential host plants in the greenhouses showed typical symptoms of infection with <i>R. solanacearum</i>. The irrigation water was tested repeatedly negative for <i>R. solanacearum</i>. However, there are indications (detection of <i>R. solanacearum</i> on host plants other than Rosa) that the bacteria were spread within the greenhouses through the irrigation water. The severity of the outbreak in the concerned greenhouses can therefore not be fully estimated. In addition to a monitoring program in the greenhouses subsequent to the eradication measures, a detection survey will be carried out in the vicinity of the affected greenhouses.</p>		
<p>6.7 - Source of the outbreak</p> <p>The finding is a result of trace forward investigations after the Dutch NPPO provided the Swiss NPPO on November 2nd 2016 with a list of suspicious deliveries from the Netherlands between 2015 and 2016. The symptomless roses had been delivered by Dutch propagation companies between June 2015 and August 2016.</p>		
7 - Official phytosanitary measures		
<p>7.1 - Adoption of official phytosanitary measures</p> <p><input checked="" type="checkbox"/> Official phytosanitary measures in the form of chemical, biological, or physical treatment have been taken:</p> <p><input checked="" type="checkbox"/> No demarcated area established</p> <p>Destruction of plants in the entire greenhouses or from lots tested positively for <i>R. solanacearum</i>, hygiene measures (staff, equipment, etc.), disinfection/destruction of the irrigation system and any other material that was in contact with the plants, testing of further plants and water, etc.</p>		
<p>7.2 - Date of adoption of the official phytosanitary measures</p> <p>2017-01-20</p>		
<p>7.3.1 - Size and delimitation of demarcated area and/or buffer zone</p> <p>Under investigation.</p>		
<p>7.3.2 - GPS key coordinates of demarcated area and/or buffer zone</p>		
<p>7.4 - Objective of the official phytosanitary measures</p> <p><input checked="" type="checkbox"/> Eradication</p>		
<p>7.5 - Measures affecting the movement of goods</p> <p><input checked="" type="checkbox"/> Measures affect import into or movement within the Union of goods</p> <p>The companies have been temporarily subjected to a prohibition of movements of relevant plants until successful eradication of the pest.</p>		
<p>7.6 - Specific surveys</p> <p><input checked="" type="checkbox"/> Yes</p> <p>The survey (monitoring) in the greenhouses has been conducted since November 2016 and will continue until the eradication is guaranteed.</p>		
8 - Pest risk analysis/assessment		
<p>8 - Pest risk analysis/assessment</p> <p><input checked="" type="checkbox"/> Pest risk analysis is not required (harmful organism is listed in Annex I or Annex II of Directive 2000/29/EC, or is subject to measures adopted pursuant to Article 16(3) of that Directive)</p>		
9 - Links to relevant websites, other sources of information		
<p>9 - Links to relevant websites, other sources of information</p>		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 223
Member State: CH - SWITZERLAND	2.1 - Notification from: SWISS FEDERAL PLANT PROTECTION SERVICE	2.2 - Official contact: PETER KUPFERSCHMIED peter.kupferschmied@blw.admin.ch +41 (0)58 462 25 90
Initial Notification date: 2017-05-25	National reference number: CH/SPPS/2017/1001 Update No. & Date: 00/2017-05-25	
1 - General Information		
1.1.1 - Title: First Finding (confirmed) of Chrysolina americana in SWITZERLAND (Canton of Zurich)		
1.1.2 - Scientific name: Chrysolina americana	1.1.3 - EPPO preferred name: Chrysolina americana	
1.1.4 - EU category of harmful organism: NON-LISTED	1.1.5 - EPPO category of harmful organism: NOT LISTED BY EPPO	
1.2.1 - Short summary of the information submitted in points 3-7: Adults of Chrysolina americana (rosemary beetle) were found by a non-professional on Rosmarinus officinalis (rosemary), Lavandula officinalis (true lavender) and Salvia officinalis (common sage) in a private garden. The identity of the pest whose presence on the Swiss territory was so far unknown was confirmed by entomologists on a morphological basis. Traces of infestation had already been observed on the old rosemary plant in December 2016. No official measures have been ordered to eradicate the pest. However, the situation in the region of Zurich regarding Chrysolina americana will be monitored over the following months.		
1.3 - Type of presence reported: Finding (confirmed)		
3 - Location of presence of harmful organism		
3.1 - Administrative region of the location of presence of harmful organism		
1 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Zürich (CH04) Zürich (CH040) 	
Canton of Zurich		
3.2 - Further information about location: "Please refer to boxes 6.1.4 and 7.3.2 where available"		
4 - Reason for notification of the harmful organism and the pest status of the area and the Member State concerned		
4.1 - Reason for the notification <input checked="" type="radio"/> First confirmed or suspected presence of the harmful organism in the territory of the Member State concerned.		
4.2 - PEST STATUS of the AREA where the harmful organism has been found to be present, AFTER the OFFICIAL CONFIRMATION. <input checked="" type="radio"/> Present: <input checked="" type="checkbox"/> at low prevalence		
4.3 - PEST STATUS in the MEMBER STATE concerned BEFORE the OFFICIAL CONFIRMATION of the presence, or suspected presence, of the harmful organism. <input checked="" type="radio"/> Absent: <input checked="" type="checkbox"/> no pest records		
4.4 - PEST STATUS in the MEMBER STATE concerned AFTER the OFFICIAL CONFIRMATION of the presence of the harmful organism. <input checked="" type="radio"/> Present: <input checked="" type="checkbox"/> at low prevalence		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 223
5 - Information relating to the finding, sampling, testing and confirmation of the harmful organism		
5.1 - How the presence or appearance of harmful organism was found <input checked="" type="checkbox"/> Information submitted by professional operators, laboratories or other persons Name of document attached: Pic1_Rosmarinus.jpg Pic2_Salvia.jpg	5.2.1 - Date when the responsible official body found the presence or appearance of the harmful organism or received the first information concerning its finding. 2017-04-11 5.2.2 - Date of finding of the harmful organism by a person other than the responsible official body. 2017-04-01	
5.3 - Sampling for laboratory analysis - Date of sampling: 2017-04-18	5.4 - Laboratory(ies) involved in the identification of the harmful organism concerned: Agricultural research station Agroscope CP 1012 Nyon 1260 CH - SWITZERLAND	
5.5 - Diagnostic method Other Confirmation of the identity of the pest based on morphology and host plants by an expert entomologist.	5.6 - Date of official confirmation of the harmful organism's identity 2017-05-02	
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
6.1.1 - Size of surface		
6.1.2 - Number of infested plants		
6.1.3 - Volume of infested plant products		
6.1.4 - GPS key coordinates of the infested area		
Pattern/colour on the map	Name of the area	Characteristics of the zone
Map_12601_1495546414.png		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 223
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
6.2/6.3/6.4 - Information related to the infested area		
Characteristics of infested area Open air - other: private garden		
Host plant in the infested area	Salvia officinalis	
Quantity/Unit	1 pce	
Type of element concerned by	Other Plant	
Quantity/Unit infested	1 pce	
Comments on the host plant or		
Host plant in the infested area	Lavandula	
Quantity/Unit	1 pce	
Type of element concerned by	Other Plant	
Quantity/Unit infested	1 pce	
Comments on the host plant or		
Host plant in the infested area	Lavandula officinalis	
Host plant in the infested area	Rosmarinus officinalis	
Quantity/Unit	1 pce	
Type of element concerned by	Other Plant	
Quantity/Unit infested	1 pce	
Comments on the host plant or		
Comments on the infested area All plants are planted in the soil		
6.5 - Vectors present in the area		
6.6 - Severity of the outbreak		
6.7 - Source of the outbreak		
The source of the outbreak is currently unknown.		
7 - Official phytosanitary measures		
7.1 - Adoption of official phytosanitary measures		
<input checked="" type="checkbox"/> No official phytosanitary measures		
The pest organism is not regulated in Switzerland and is reported to cause only little damage (CLS PRA on Chrysolina americana, 2000, UK).		
7.2 - Date of adoption of the official phytosanitary measures		
7.3.1 - Size and delimitation of demarcated area and/or buffer zone		
7.3.2 - GPS key coordinates of demarcated area and/or buffer zone		
7.4 - Objective of the official phytosanitary measures		
7.5 - Measures affecting the movement of goods		
7.6 - Specific surveys		
<input checked="" type="checkbox"/> Yes		
The situation in the region of Zurich regarding C. americana will be observed by the regional plant protection service over the following months.		
8 - Pest risk analysis/assessment		
8 - Pest risk analysis/assessment		
<input checked="" type="checkbox"/> Assessment of the risk presented by non-regulated harmful organism was done by means other than a (preliminary) pest risk analysis		
CSL Pest Risk Analysis for Chrysolina americana, 2000 (updated in 2002), UK: https://secure.fera.defra.gov.uk/phlw/riskRegister/downloadExternalPra.cfm?id=3850		
9 - Links to relevant websites, other sources of information		
9 - Links to relevant websites, other sources of information		
CSL Pest Risk Analysis for Chrysolina americana, 2000 (updated in 2002), UK: https://secure.fera.defra.gov.uk/phlw/riskRegister/downloadExternalPra.cfm?id=3850 CABI (2016) Chrysolina americana (rosemary beetle): http://www.cabi.org/isc/datasheet/113295		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 243
Member State: CH - SWITZERLAND	2.1 - Notification from: SWISS FEDERAL PLANT PROTECTION SERVICE	2.2 - Official contact: PETER KUPFERSCHMIED peter.kupferschmied@blw.admin.ch +41 (0)58 462 25 90
Initial Notification date: 2017-06-27	National reference number: CH/SPPS/2017/1002 Update No. & Date: 00/2017-06-27	
1 - General Information		
1.1.1 - Title: First Finding (confirmed) of Popillia japonica in SWITZERLAND (Canton of Ticino)		
1.1.2 - Scientific name: Popillia japonica	1.1.3 - EPPO preferred name: Popillia japonica	
1.1.4 - EU category of harmful organism: ANNEX I A II	1.1.5 - EPPO category of harmful organism: EPPO A2	
1.2.1 - Short summary of the information submitted in points 3-7: Three adults of Popillia japonica Newman (Japanese beetle) were found in Canton of Ticino in an official pheromone trap at the borderline to Italy. The site of the finding is located only a few kilometers from the buffer zone of an outbreak detected in 2014 in Italy (Ticino Valley Natural Park, Lombardy and Piedmont Regions). Immediate measures will include the intensification of the surveillance in the region, the continuation of raising public awareness and providing farmers and producers with specific information about the pest.		
1.3 - Type of presence reported: Finding (confirmed)		
3 - Location of presence of harmful organism		
3.1 - Administrative region of the location of presence of harmful organism		
1 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Ticino (CH07) Ticino (CH070) Stabio	
Canton of Ticino		
3.2 - Further information about location: "Please refer to boxes 6.1.4 and 7.3.2 where available"		
4 - Reason for notification of the harmful organism and the pest status of the area and the Member State concerned		
4.1 - Reason for the notification <input checked="" type="radio"/> First confirmed or suspected presence of the harmful organism in the territory of the Member State concerned. Three adults of Popillia japonica were found in a pheromone trap during official controls.		
4.2 - PEST STATUS of the AREA where the harmful organism has been found to be present, AFTER the OFFICIAL CONFIRMATION. <input checked="" type="radio"/> Transient: <input checked="" type="checkbox"/> actionable, under eradication		
4.3 - PEST STATUS in the MEMBER STATE concerned BEFORE the OFFICIAL CONFIRMATION of the presence, or suspected presence, of the harmful organism. <input checked="" type="radio"/> Absent: <input checked="" type="checkbox"/> no pest records		
4.4 - PEST STATUS in the MEMBER STATE concerned AFTER the OFFICIAL CONFIRMATION of the presence of the harmful organism. <input checked="" type="radio"/> Transient: <input checked="" type="checkbox"/> actionable, under eradication		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 243
5 - Information relating to the finding, sampling, testing and confirmation of the harmful organism		
5.1 - How the presence or appearance of harmful organism was found <input checked="" type="checkbox"/> Pest related official survey	5.2.1 - Date when the responsible official body found the presence or appearance of the harmful organism or received the first information concerning its finding. 2017-06-21	
	5.2.2 - Date of finding of the harmful organism by a person other than the responsible official body.	
5.3 - Sampling for laboratory analysis - Date of sampling: 2017-06-21	5.4 - Laboratory(ies) involved in the identification of the harmful organism concerned: Museo Cantonale di Storia Naturale, Lugano	
5.5 - Diagnostic method Other	5.6 - Date of official confirmation of the harmful organism's identity 2017-06-21	
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
6.1.1 - Size of surface		
6.1.2 - Number of infested plants		
6.1.3 - Volume of infested plant products		
6.1.4 - GPS key coordinates of the infested area		
Pattern/colour on the map	Name of the area	Characteristics of the zone
Map_12634_1498545900.png 		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 243
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
Map_12634_1498140731.png		
6.2/6.3/6.4 - Information related to the infested area		
Characteristics of infested area Open air - production area: field (arable, pasture)		
Host plant in the infested area		
Quantity/Unit		
Type of element concerned by Object: trap		
Quantity/Unit infested 1 pce		
Comments on the host plant or		
Comments on the infested area Three adult beetles of <i>Popillia japonica</i> were found in a pheromone trap during an official control.		
6.5 - Vectors present in the area		
6.6 - Severity of the outbreak		
6.7 - Source of the outbreak		
The source of the finding is most probably the outbreak detected in 2014 in the Ticino Valley Natural Park in Italy (Lombardy and Piedmont Regions), an infested area that is situated only a few kilometers away from the official trap at the borderline.		
7 - Official phytosanitary measures		
7.1 - Adoption of official phytosanitary measures		
<input checked="" type="checkbox"/> Official phytosanitary measures will be taken		
Immediate measures will include the intensification of the surveillance in the region, the continuation of raising public awareness and providing farmers and producers with specific information about the pest.		
7.2 - Date of adoption of the official phytosanitary measures		
7.3.1 - Size and delimitation of demarcated area and/or buffer zone		
7.3.2 - GPS key coordinates of demarcated area and/or buffer zone		
7.4 - Objective of the official phytosanitary measures		
<input checked="" type="checkbox"/> Eradication		
7.5 - Measures affecting the movement of goods		
7.6 - Specific surveys		
8 - Pest risk analysis/assessment		
8 - Pest risk analysis/assessment		
<input checked="" type="checkbox"/> Pest risk analysis is not required (harmful organism is listed in Annex I or Annex II of Directive 2000/29/EC, or is subject to measures adopted pursuant to Article 16(3) of that Directive)		
9 - Links to relevant websites, other sources of information		
9 - Links to relevant websites, other sources of information		


NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 243
Member State: CH - SWITZERLAND	2.1 - Notification from: SWISS FEDERAL PLANT PROTECTION SERVICE	2.2 - Official contact: PETER KUPFERSCHMIED peter.kupferschmied@blw.admin.ch +41 (0)58 462 25 90
Initial Notification date: 2017-06-27	National reference number: CH/SPPS/2017/1002 Update No. & Date: 01/2017-07-21	
1 - General Information		
1.1.1 - Title: Update no 1. Finding (confirmed) of Popillia japonica in SWITZERLAND (Stabio)		
1.1.2 - Scientific name: Popillia japonica	1.1.3 - EPPO preferred name: Popillia japonica	
1.1.4 - EU category of harmful organism: ANNEX I A II	1.1.5 - EPPO category of harmful organism: EPPO A2	
1.2.1 - Short summary of the information submitted in points 3-7: In Canton of Ticino, adults of Popillia japonica Newman (Japanese beetle) have been found in an official pheromone trap at the borderline to Italy repeatedly since June 21, 2017. To date, a total of 18 adults were captured over the period of 4 weeks. The site of the finding is located only a few kilometers from the demarcated area of an outbreak detected in 2014 in Italy (Ticino Valley Natural Park, Lombardy and Piedmont Regions). Popillia japonica has not been detected outside of the pheromone trap on Swiss territory so far. Immediate measures have been taken such as the intensification of the surveillance in the region, the inventory of potential hotspots, the continuation of raising public awareness and providing farmers and producers with specific information about the pest. In addition, a research project on the identification of potent strains of entomopathogenic fungi against Popillia japonica has been started by the federal agricultural research institute Agroscope.		
1.2.2 - Summary of information provided in this update: Since the capture of 3 adults of Popillia japonica on June 21, 2017, additional 15 adults of the quarantine pest have been detected in the same pheromone trap at the border to Italy over the past 3 weeks. The frequency of the captures indicates that Popillia japonica is expanding to Switzerland.		
1.3 - Type of presence reported: Finding (confirmed)		
3 - Location of presence of harmful organism		
3.1 - Administrative region of the location of presence of harmful organism		
1 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Ticino (CH07) Ticino (CH070) Stabio	
3.2 - Further information about location: "Please refer to boxes 6.1.4 and 7.3.2 where available"		
4 - Reason for notification of the harmful organism and the pest status of the area and the Member State concerned		
4.1 - Reason for the notification <input checked="" type="radio"/> First confirmed or suspected presence of the harmful organism in the territory of the Member State concerned. Three adults of Popillia japonica were found on June 21, 2017, in a pheromone trap during an official control.		
4.2 - PEST STATUS of the AREA where the harmful organism has been found to be present, AFTER the OFFICIAL CONFIRMATION. <input checked="" type="radio"/> Transient: <input checked="" type="checkbox"/> actionable, under eradication The pest has not been detected outside of the specified pheromone trap on Swiss territory so far.		
4.3 - PEST STATUS in the MEMBER STATE concerned BEFORE the OFFICIAL CONFIRMATION of the presence, or suspected presence, of the harmful organism. <input checked="" type="radio"/> Absent: <input checked="" type="checkbox"/> no pest records		
4.4 - PEST STATUS in the MEMBER STATE concerned AFTER the OFFICIAL CONFIRMATION of the presence of the harmful organism. <input checked="" type="radio"/> Transient: <input checked="" type="checkbox"/> actionable, under eradication The pest has not been detected outside of the specified pheromone trap on Swiss territory so far.		


NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 243
5 - Information relating to the finding, sampling, testing and confirmation of the harmful organism		
5.1 - How the presence or appearance of harmful organism was found <input checked="" type="checkbox"/> Pest related official survey	5.2.1 - Date when the responsible official body found the presence or appearance of the harmful organism or received the first information concerning its finding. 2017-06-21	
	5.2.2 - Date of finding of the harmful organism by a person other than the responsible official body.	
5.3 - Sampling for laboratory analysis - Date of sampling: 2017-06-21	5.4 - Laboratory(ies) involved in the identification of the harmful organism concerned: Museo Cantonale di Storia Naturale, Lugano	
5.5 - Diagnostic method Other	5.6 - Date of official confirmation of the harmful organism's identity 2017-06-21	
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
6.1.1 - Size of surface		
6.1.2 - Number of infested plants		
6.1.3 - Volume of infested plant products		
6.1.4 - GPS key coordinates of the infested area		
Pattern/colour on the map	Name of the area	Characteristics of the zone
Map_12634_1498545900.png 		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 243
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
Map_12634_1498140731.png		
6.2/6.3/6.4 - Information related to the infested area		
Characteristics of infested area Open air - production area: field (arable, pasture)		
Host plant in the infested area		
Quantity/Unit		
Type of element concerned by	Object: trap	
Quantity/Unit infested	1 pce	
Comments on the host plant or		
Comments on the infested area To date, 18 adult beetles of <i>Popillia japonica</i> have been detected in a single pheromone trap during official controls.		
6.5 - Vectors present in the area		
6.6 - Severity of the outbreak		
So far, the pest has only been detected in a single official pheromone trap on Swiss territory.		
6.7 - Source of the outbreak		
The source of the finding is most probably the result of the spread of the population established since 2014 in the Ticino Valley Natural Park in Italy (Lombardy and Piedmont Regions). The boundary of the demarcated area is situated only a few kilometers away from the official trap at the borderline. The frequency of the captures indicates that <i>Popillia japonica</i> is expanding to Switzerland.		
7 - Official phytosanitary measures		
7.1 - Adoption of official phytosanitary measures		
<input checked="" type="checkbox"/> Official phytosanitary measures, other than chemical, biological, or physical treatment have been taken:		
<input checked="" type="checkbox"/> No demarcated area established		
Immediate measures include the intensification of the surveillance in the region, the inventory of potential hotspots, the continuation of raising public awareness and providing farmers and producers with specific information about the pest. The pest has not been detected outside of the specified pheromone trap so far. Additionally, a research project on the identification of potent strains of entomopathogenic fungi against <i>Popillia japonica</i> has been started by the federal agricultural research institute Agroscope.		
7.2 - Date of adoption of the official phytosanitary measures		
7.3.1 - Size and delimitation of demarcated area and/or buffer zone		
7.3.2 - GPS key coordinates of demarcated area and/or buffer zone		
7.4 - Objective of the official phytosanitary measures		
<input checked="" type="checkbox"/> Eradication		
7.5 - Measures affecting the movement of goods		
7.6 - Specific surveys		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 243
8 - Pest risk analysis/assessment		
8 - Pest risk analysis/assessment <input checked="" type="checkbox"/> Pest risk analysis is not required (harmful organism is listed in Annex I or Annex II of Directive 2000/29/EC, or is subject to measures adopted pursuant to Article 16(3) of that Directive)		
9 - Links to relevant websites, other sources of information		
9 - Links to relevant websites, other sources of information		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 266
Member State: CH - SWITZERLAND	2.1 - Notification from: SWISS FEDERAL PLANT PROTECTION SERVICE	2.2 - Official contact: PETER KUPFERSCHMIED peter.kupferschmied@blw.admin.ch +41 (0)58 462 25 90
Initial Notification date: 2017-07-26	National reference number: CH/SPPS/2017/1003 Update No. & Date: 00/2017-07-26	
1 - General Information		
1.1.1 - Title: First Finding (confirmed) of Pomacea sp. in SWITZERLAND (Ettiswil)		
1.1.2 - Scientific name: Pomacea sp.	1.1.3 - EPPO preferred name: Pomacea sp.	
1.1.4 - EU category of harmful organism: EU EMERGENCY MEASURES	1.1.5 - EPPO category of harmful organism:	
1.2.1 - Short summary of the information submitted in points 3-7: More than 40 individuals of Pomacea sp. (Perry) were found in an artificial pond in a public educational nature reserve end of March 2017. The apple snails were most probably released into the pond by a private individual shortly before. The eradication measures taken immediately by the regional authority consisted of capturing the apple snails, the removal of the water and sediments of the artificial pond (which has a concrete bottom), the intensive surveillance of the area, and the installation of barriers to prevent the spread of potentially undetected apple snails. The area of the finding is not situated in a region where rice or any other host plants of Pomacea spp. of agricultural importance are produced.		
1.3 - Type of presence reported: Finding (confirmed)		
3 - Location of presence of harmful organism		
3.1 - Administrative region of the location of presence of harmful organism:		
1 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Zentralschweiz (CH06) Luzern (CH061) 	
3.2 - Further information about location: "Please refer to boxes 6.1.4 and 7.3.2 where available"		
4 - Reason for notification of the harmful organism and the pest status of the area and the Member State concerned		
4.1 - Reason for the notification <input checked="" type="checkbox"/> First confirmed or suspected presence of the harmful organism in the territory of the Member State concerned.		
4.2 - PEST STATUS of the AREA where the harmful organism has been found to be present, AFTER the OFFICIAL CONFIRMATION. <input checked="" type="checkbox"/> Absent: <input checked="" type="checkbox"/> Pest found present but eradicated		
4.3 - PEST STATUS in the MEMBER STATE concerned BEFORE the OFFICIAL CONFIRMATION of the presence, or suspected presence, of the harmful organism. <input checked="" type="checkbox"/> Absent: <input checked="" type="checkbox"/> no pest records		
4.4 - PEST STATUS in the MEMBER STATE concerned AFTER the OFFICIAL CONFIRMATION of the presence of the harmful organism. <input checked="" type="checkbox"/> Absent: <input checked="" type="checkbox"/> Pest eradicated		


NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 266
5 - Information relating to the finding, sampling, testing and confirmation of the harmful organism		
5.1 - How the presence or appearance of harmful organism was found Information submitted by professional operators, laboratories or other persons	5.2.1 - Date when the responsible official body found the presence or appearance of the harmful organism or received the first information concerning its finding. 2017-03-27	
	5.2.2 - Date of finding of the harmful organism by a person other than the responsible official body. 2017-03-26	
5.3 - Sampling for laboratory analysis - Date of sampling:	5.4 - Laboratory(ies) involved in the identification of the harmful organism concerned:	
5.5 - Diagnostic method	5.6 - Date of official confirmation of the harmful organism's identity 2017-03-27	
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
6.1.1 - Size of surface		
6.1.2 - Number of infested plants		
6.1.3 - Volume of infested plant products		
6.1.4 - GPS key coordinates of the infested area		
Pattern/colour on the map	Name of the area	Characteristics of the zone
Map_12715_1500886792.png		
		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 266
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
Map_12715_150086771.png		
<p>image1_small.JPG</p> 		
<p>6.2/6.3/6.4 - Information related to the infested area</p> <p>Characteristics of infested area Open air - other: conservation area</p> <p>Host plant in the infested area</p> <p>Quantity/Unit</p> <p>Type of element concerned by Object: water</p> <p>Quantity/Unit infested 1</p> <p>Comments on the host plant or The artificial pond did not contain any plants ("pioneer pond" for yellow-bellied toads).</p>		
6.5 - Vectors present in the area		
<p>6.6 - Severity of the outbreak</p> <p>More than 40 individuals of Pomacea sp. were found in an artificial pond within a public educational nature reserve.</p>		
<p>6.7 - Source of the outbreak</p> <p>Individuals of Pomacea sp. (more than 40) were most probably released into the pond by a private individual shortly before the finding.</p>		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. 266
7 - Official phytosanitary measures		
7.1 - Adoption of official phytosanitary measures		
<input checked="" type="checkbox"/> Official phytosanitary measures in the form of chemical, biological, or physical treatment have been taken: <input checked="" type="checkbox"/> No demarcated area established <p>The eradication measures taken immediately by the regional authority consisted of capturing the apple snails, the removal of the water and sediments of the artificial pond (which has a concrete bottom; the excavated sediments were buried), the intensive surveillance of the area, and the installation of barriers to prevent the spread of potentially undetected apple snails. No demarcated area was established as the affected area was an isolated and artificial pond without plants and is not located in a region where rice or any other host plants of Pomacea spp. of agricultural importance are produced.</p>		
7.2 - Date of adoption of the official phytosanitary measures 2017-03-27		
7.3.1 - Size and delimitation of demarcated area and/or buffer zone		
7.3.2 - GPS key coordinates of demarcated area and/or buffer zone		
7.4 - Objective of the official phytosanitary measures <input checked="" type="checkbox"/> Eradication		
7.5 - Measures affecting the movement of goods <input checked="" type="checkbox"/> Measures do not affect import into or movement within the Union of goods		
7.6 - Specific surveys		
8 - Pest risk analysis/assessment		
8 - Pest risk analysis/assessment <input checked="" type="checkbox"/> Pest risk analysis is not required (harmful organism is listed in Annex I or Annex II of Directive 2000/29/EC, or is subject to measures adopted pursuant to Article 16(3) of that Directive)		
9 - Links to relevant websites, other sources of information		
9 - Links to relevant websites, other sources of information		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. -691
Member State: CH - SWITZERLAND	2.1 - Notification from: SWISS FEDERAL PLANT PROTECTION SERVICE	2.2 - Official contact: PETER KUPFERSCHMIED peter.kupferschmied@blw.admin.ch +41 (0)58 462 25 90
Initial Notification date: 2015-07-07	National reference number: CH/SPPS/2015/HH555 Update No. & Date: 01/2017-09-08	
1 - General Information		
1.1.1 - Title: Update no 1. Outbreak (confirmed) of Pseudomonas syringae pv. actinidiae in SWITZERLAND		
1.1.2 - Scientific name: Pseudomonas syringae pv. actinidiae	1.1.3 - EPPO preferred name: Pseudomonas syringae pv. actinidiae	
1.1.4 - EU category of harmful organism: EU EMERGENCY MEASURES	1.1.5 - EPPO category of harmful organism: EPPO A2	
1.2.1 - Short summary of the information submitted in points 3-7: <p>Pseudomonas syringae pv. actinidiae (PSA) was detected in Switzerland for the first time in June 2011 in the Canton of Geneva in a small commercial orchard shortly after planting. In May 2015, PSA was found in a commercial orchard in Canton of Vaud and a nursery in Canton of Thurgau. Both findings could be traced back to a lot imported from Italy in May 2013 and distributed by the nursery. Although eradication measures were taken at both sites, the bacterium was detected again in June 2016 in the orchard in a neighboring plot, on plants that did not show any symptoms. Eradication measures included the uprooting and elimination of all kiwi plants in the infested plot (0.6 ha). PSA was further detected in May 2016 on kiwi plants in two private gardens (Canton of Fribourg) and in a garden center (Canton of Ticino) that were delivered by a second nursery in close proximity to the aforementioned nursery in Canton of Thurgau. The two nurseries were exchanging kiwi plants. In the same year, plants from the second nursery were also found infested by PSA in Germany. An investigation revealed a kiwi mother plant, produced in Italy and imported in 2014, in the first nursery as the most likely source of the second infestation. In May 2017, PSA was found during an official survey in a private garden in the vicinity of the orchard affected by the outbreaks in 2015 and 2016 (Canton of Vaud). At every site, eradication measures were taken immediately according to the legislation in place (equivalent to Implementing Decision 2012/756/EU). This included the preventive destruction of all kiwi plants and the disinfection of the facilities in the nurseries in Canton of Thurgau in 2016. Surveillance for PSA is ongoing to eradicate the bacterium in Switzerland.</p>		
1.2.2 - Summary of information provided in this update: <p>The purpose of this notification is to give an overview of the findings of Pseudomonas syringae pv. actinidiae (PSA) in Switzerland connected with each other and an update on the current situation with this quarantine bacterium on Swiss territory. Outbreaks of PSA on kiwi plants were detected at several distinct sites over the past three years, which could all be traced back to imports of infested plants from Italy. Phytosanitary measures taken aim at the eradication of the bacterium on Swiss territory.</p>		
1.3 - Type of presence reported: Outbreak (confirmed)		
3 - Location of presence of harmful organism		
3.1 - Administrative region of the location of presence of harmful organism		
1 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Région lémanique (CH01) Vaud (CH011) [REDACTED]	
2 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Ostschweiz (CH05) Thurgau (CH057) [REDACTED]	
3 - NUTS I NUTS II NUTS III Town/municipality Other	SCHWEIZ/SUISSE/SVIZZERA (CH0) Espace Mittelland (CH02) Freiburg (CH022) [REDACTED]	

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. -691
3 - Location of presence of harmful organism		
4 -	NUTS I SCHWEIZ/SUISSE/SVIZZERA (CH0) NUTS II Ticino (CH07) NUTS III Ticino (CH070) Town/municipality XXXXXXXXXX Other	
Lake Geneva (Canton of Vaud), Lake Constance (Canton of Thurgau), Canton of Fribourg, and Canton of Ticino		
3.2 - Further information about location: "Please refer to boxes 6.1.4 and 7.3.2 where available"		
4 - Reason for notification of the harmful organism and the pest status of the area and the Member State concerned		
4.1 - Reason for the notification		
<input checked="" type="checkbox"/> Confirmed or suspected appearance of the harmful organism in part of the territory of the Member State concerned, in which it has been previously present but eradicated. New findings		
4.2 - PEST STATUS of the AREA where the harmful organism has been found to be present, AFTER the OFFICIAL CONFIRMATION.		
<input checked="" type="checkbox"/> Transient: <input checked="" type="checkbox"/> actionable, under eradication		
4.3 - PEST STATUS in the MEMBER STATE concerned BEFORE the OFFICIAL CONFIRMATION of the presence, or suspected presence, of the harmful organism.		
<input checked="" type="checkbox"/> Absent: <input checked="" type="checkbox"/> Pest eradicated		
4.4 - PEST STATUS in the MEMBER STATE concerned AFTER the OFFICIAL CONFIRMATION of the presence of the harmful organism.		
<input checked="" type="checkbox"/> Transient: <input checked="" type="checkbox"/> actionable, under eradication		
5 - Information relating to the finding, sampling, testing and confirmation of the harmful organism		
5.1 - How the presence or appearance of harmful organism was found	5.2.1 - Date when the responsible official body found the presence or appearance of the harmful organism or received the first information concerning its finding. 2015-06-03	
<input checked="" type="checkbox"/> Information submitted by professional operators, laboratories or other persons	5.2.2 - Date of finding of the harmful organism by a person other than the responsible official body.	
5.3 - Sampling for laboratory analysis - Date of sampling: 2015-05-20	5.4 - Laboratory(ies) involved in the identification of the harmful organism concerned: Agricultural research station Agroscope CP 1012 Nyon 1260 CH - SWITZERLAND	
5.5 - Diagnostic method According to peer reviewed protocols	5.6 - Date of official confirmation of the harmful organism's identity 2015-06-03	
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
6.1.1 - Size of surface		
6.1.2 - Number of infested plants		
6.1.3 - Volume of infested plant products		
6.1.4 - GPS key coordinates of the infested area		
Pattern/colour on the map	Name of the area	Characteristics of the zone

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. -691
6 - Information related to the infested area, and the severity and source of the outbreak in that area		
Map_12746_1502107569.png		
		
6.2/6.3/6.4 - Information related to the infested area		
Characteristics of infested area	Open air - production area: orchard/vineyard	
Host plant in the infested area	Actinidia chinensis	
Quantity/Unit		
Type of element concerned by	Other Plant	
Quantity/Unit infested	0 ha	
Comments on the host plant or		
Host plant in the infested area	Actinidia deliciosa	
Quantity/Unit		
Type of element concerned by	Other Plant	
Quantity/Unit infested	0 ha	
Comments on the host plant or		
Comments on the infested area	Canton of Vaud: PSA found between 2015 and 2017 in two plots of kiwi of a fruit producing company as well as a private garden in the vicinity. Canton of Thurgau: PSA found in 2015 and 2016 on kiwi plants in two adjacent nurseries. Canton of Fribourg: PSA found in 2016 on kiwi plants in two adjacent private gardens. Canton of Ticino: PSA found on kiwi plants in a garden center.	
6.5 - Vectors present in the area		
6.6 - Severity of the outbreak		
<p>Canton of Vaud: In 2015, a kiwi orchard found infested. Plot A (2.8 ha): severe (95% of plants showed symptoms); plot B (0.6 ha): only a single plant found positive. In 2016, in plot B kiwi plants were found infested again. In 2017, PSA found on kiwi plants in a private garden in the vicinity of the orchard affected by outbreaks in 2015 and 2016.</p> <p>Canton of Thurgau: In 2015, 559 plants for planting, representing 30% of the plants of a nursery plot, showed either symptoms or were tested positive. In 2016, PSA was found again in the same nursery on a kiwi mother plant. All kiwi plants in the affected nursery and an adjacent nursery (exchanging and distributing plant material with the aforementioned nursery) were destroyed in summer 2016.</p> <p>Canton of Fribourg: five kiwi plants in two adjacent private gardens were destroyed after the finding of PSA on one of them.</p> <p>Canton of Ticino: several kiwi plants belonging to the same lot were found to be infested by PSA in a garden center; all kiwi plants of the lot were eliminated.</p>		
6.7 - Source of the outbreak		
All findings had in common that the plants were all delivered by the same two nurseries located in Canton of Thurgau. The infestation in the two nurseries could be traced back to plants produced and imported from a nursery in Italy. Additionally, in Canton of Vaud, PSA seems to have spread locally from the infested kiwi orchard to kiwi plants in a private garden situated in close proximity to the fruit producing company.		

NOTIFICATION OF THE PRESENCE OF A HARMFUL ORGANISM TO THE COMMISSION AND TO OTHER MEMBER STATES		Outbreak No. -691
7 - Official phytosanitary measures		
7.1 - Adoption of official phytosanitary measures		
<input checked="" type="checkbox"/> Official phytosanitary measures in the form of chemical, biological, or physical treatment have been taken: <input checked="" type="checkbox"/> Those measures are taken inside the demarcated area <p>Canton of Vaud: between 2015 and 2016, all kiwi plants from two plots (2.8 ha and 0.6 ha) were uprooted and burned. As it is the most important production area for kiwi in Switzerland, an extensive survey within a radius of 10 km around the infested plot was carried out and identified several kiwi plants infested by PSA in a private garden in the vicinity in spring 2017. All kiwi plants were uprooted and eliminated. Canton of Thurgau: in 2015, all plants of the outdoor premises (559 potted plants) were destroyed in a nursery. In 2016, PSA was found again on a mother plant in the nursery. All kiwi plants in the nursery as well as in an adjacent nursery, exchanging kiwi plants, were eliminated and the affected facilities were disinfected to eradicate the quarantine organism. Canton of Fribourg and Canton of Ticino: all kiwi plants on the sites of findings were destroyed.</p>		
7.2 - Date of adoption of the official phytosanitary measures		
2015-06-03		
7.3.1 - Size and delimitation of demarcated area and/or buffer zone		
7.3.2 - GPS key coordinates of demarcated area and/or buffer zone		
7.4 - Objective of the official phytosanitary measures		
<input checked="" type="checkbox"/> Eradication		
7.5 - Measures affecting the movement of goods		
7.6 - Specific surveys		
<input checked="" type="checkbox"/> Yes Annual national surveys and local surveys in the surrounding of affected companies according to legislation in place are carried out.		
8 - Pest risk analysis/assessment		
8 - Pest risk analysis/assessment		
<input checked="" type="checkbox"/> Pest risk analysis is not required (harmful organism is listed in Annex I or Annex II of Directive 2000/29/EC, or is subject to measures adopted pursuant to Article 16(3) of that Directive)		
9 - Links to relevant websites, other sources of information		
9 - Links to relevant websites, other sources of information		

Encouragement of publication of results and promotion of use of knowledge

At the Third Review Conference it was agreed that States parties continue to implement the following:

Encouragement of publication of results of biological research directly related to the Convention, in scientific journals generally available to States parties, as well as promotion of use for permitted purposes of knowledge gained in this research.

Modalities

The Third Review Conference agreed on the following:

1. *It is recommended that basic research in biosciences, and particularly that directly related to the Convention should generally be unclassified and that applied research to the extent possible, without infringing on national and commercial interests, should also be unclassified.*
2. *States parties are encouraged to provide information on their policy as regards publication of results of biological research, indicating, inter alia, their policies as regards publication of results of research carried out in research centres and laboratories subject to exchange of information under item A and publication of research on outbreaks of diseases covered by item B, and to provide information on relevant scientific journals and other relevant scientific publications generally available to States parties.*
3. *The Third Review Conference discussed the question of cooperation and assistance as regards the safe handling of biological material covered by the Convention. It concluded that other international forums were engaged in this field and expressed its support for efforts aimed at enhancing such cooperation.*

Encouragement of publication of results and promotion of use of knowledge

Switzerland does not impose any restrictions on the publication of basic and applied research in biosciences related to the Convention:

- CBM “A”: No restrictions implemented on the publication of research carried out within the frameworks of the National Biological Defense Program and the Regional Laboratory Network as well as their contractors.
- CBM “B”: No restrictions implemented on the publication of research. Full cooperation with international organizations (WHO, OIE, EPPO) in their respective frameworks.
- CBM “G”: Public institutions (universities, institutes, hospitals, state-run facilities): No restrictions implemented on the publication of research.
Private companies: Publication of research is encouraged, however, companies are responsible for their own publication policy that are in line with the protection of any commercial interests.

Publishers of scientific and medical journals and other publications based in Switzerland:

Birkhäuser Verlag AG, Basel	https://www.springer.com/birkhauser
EMH Schweizerischer Ärzteverlag AG, Muttentz	http://www.emh.ch/
Frontiers Media SA, Lausanne	https://www.frontiersin.org/
Inderscience Publishers, Genève	http://www.inderscience.com/
MDPI AG, Basel	http://www.mdpi.com/
S. Karger AG, Basel	https://www.karger.com/
SciPress Ltd., Bäch	https://www.scipress.com/
WHO Press, Genève	http://apps.who.int/bookorders

Declaration of legislation, regulations and other measures

At the Third Review Conference the States parties agreed to implement the following, later amended by the Seventh Review Conference:

As an indication of the measures which they have taken to implement the Convention, States parties shall declare whether they have legislation, regulations or other measures:

- (a) To prohibit and prevent the development, production, stockpiling, acquisition or retention of the agents, toxins, weapons, equipment and means of delivery specified in Article I of the Convention, within their territory or anywhere under their jurisdiction or under their control anywhere;*
- (b) In relation to the export or import of micro-organisms pathogenic to man, animals and plants or of toxins in accordance with the Convention;*
- (c) In relation to biosafety and biosecurity.*

States parties shall complete the attached form (Form E) and shall be prepared to submit copies of the legislation or regulations, or written details of other measures on request to the Implementation Support Unit (ISU) within the United Nations Office for Disarmament Affairs or to an individual State party. On an annual basis States parties shall indicate, also on the attached form, whether or not there has been any amendment to their legislation, regulations or other measures.

Declaration of legislation, regulations and other measures

Switzerland adheres to a monistic system, i.e. treaties of international law become effective upon ratification and are part of the Swiss Federal Legislation. This fact is reflected as follows:

Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (RS 0.515.07 *Convention du 10 avril 1972 sur l'interdiction de la mise au point, de la fabrication et du stockage des armes bactériologiques (biologiques) ou à toxines et sur leur destruction*)

<https://www.admin.ch/opc/fr/classified-compilation/19720074>

Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (RS 0.515.105 *Protocole du 17 juin 1925 concernant la prohibition d'emploi à la guerre de gaz asphyxiants, toxiques ou similaires et de moyens bactériologiques*)

<https://www.admin.ch/opc/fr/classified-compilation/19250020>

Declaration of legislation, regulations and other measures

The current status of the further implementation of the Convention into the Swiss Federal Legislation as well as by other measures is as follows:

Relating to	Legislation	Regulations	Other measures ¹²	Amended since last year
a) Development, production, stockpiling, acquisition or retention of microbial or other biological agents, or toxins, weapons, equipment and means of delivery specified in Article I	Yes ^a	Yes ^b	Yes	Yes
b) Exports of micro-organisms ¹³ and toxins	Yes ^c	Yes ^d	Yes	Yes
c) Imports of micro-organisms ¹³ and toxins	Yes ^e	Yes ^f	Yes	Yes
d) Biosafety ¹⁴ and biosecurity ¹⁵	Yes ^g	Yes ^h	Yes	Yes

¹² Including guidelines.

¹³ Micro-organisms pathogenic to man, animals and plants in accordance with the Convention.

¹⁴ In accordance with the latest version of the WHO Laboratory Biosafety Manual or equivalent national or international guidance.

¹⁵ In accordance with the latest version of the WHO Laboratory Biosecurity Guidance or equivalent national or international guidance.

Declaration of legislation, regulations and other measures

Legislation and regulations concerned with the implementation of the Convention in Switzerland is detailed as follows:

^{a,g} Federal Constitution of the Swiss Confederation (RS 101 *Constitution fédérale de la Confédération suisse du 18 avril 1999*)

<https://www.admin.ch/opc/fr/classified-compilation/19995395>

^a Federal Act on Measures Ensuring Homeland Security (RS 120 *Loi fédérale du 21 mars 1997 instituant des mesures visant au maintien de la sûreté intérieure*)

<https://www.admin.ch/opc/fr/classified-compilation/19970117>

^b Ordinance on the Intelligence Service (RS 121.1 *Ordonnance du 16 août 2017 sur le Service de renseignement*)

<https://www.admin.ch/opc/fr/classified-compilation/20162430>

^b Ordinance on Information and Storage Systems of the Intelligence Service of the Confederation (RS 121.2 *Ordonnance du 16 août 2017 sur les systèmes d'information et les systèmes de stockage de données du Service de renseignement de la Confédération*)

<https://www.admin.ch/opc/fr/classified-compilation/20162429>

^{a,c} Federal Act on the Prohibition of « al-Qaeda » and « Islamic State » Groups and related Organizations (RS 122 *Loi fédérale du 12 décembre 2014 interdisant les groupes « Al-Qaïda » et « État islamique » et les organisations apparentées*)

<https://www.admin.ch/opc/fr/classified-compilation/20142993>

^{b,h} Ordinance on the Federal Expert Commission for Biosafety (RS 172.327.8 *Ordonnance du 20 novembre 1996 sur la Commission fédérale d'experts pour la sécurité biologique*)

<https://www.admin.ch/opc/fr/classified-compilation/19960584>

Establishes the roles of the Federal Commission of Experts for Biological Security to ensure the protection of the Swiss population against transmissible diseases, the health of workers, and the protection of animals and plants and their environments.

^a Swiss Criminal Code (RS 311.0 *Code pénal suisse du 21 décembre 1937*)

<https://www.admin.ch/opc/fr/classified-compilation/19370083>

^a Swiss Code of Criminal Procedure (RS 312.0 *Code de procédure pénale suisse du 5 octobre 2007*)

<https://www.admin.ch/opc/fr/classified-compilation/20052319>

^b Ordinance on the Communication of Penal Decisions Taken by Cantonal Authorities (RS 312.3 *Ordonnance du 10 novembre 2004 réglant la communication des décisions pénales prises par les autorités cantonales*)

<https://www.admin.ch/opc/fr/classified-compilation/20041752>

^a Military Criminal Code (RS 321.0 *Code pénal militaire du 13 juin 1927*)

<https://www.admin.ch/opc/fr/classified-compilation/19270018>

^a Federal Act on International Legal Aid in Criminal Cases (RS 351.1 *Loi fédérale du 20 mars 1981 sur l'entraide internationale en matière pénale*)

<https://www.admin.ch/opc/fr/classified-compilation/19810037>

^a Federal Act on Main Offices of Criminal Investigation Departments of the Confederation (RS 360 *Loi fédérale du 7 octobre 1994 sur les Offices centraux de police criminelle de la Confédération*)

<https://www.admin.ch/opc/fr/classified-compilation/19940242>

^b Ordinance on the Information System of the Federal Criminal Police (RS 360.2 *Ordonnance du 15 octobre 2008 sur le système informatisé de la Police judiciaire fédérale*)

<https://www.admin.ch/opc/fr/classified-compilation/20081753>

^b Ordinance on the National Central Bureau Interpol Bern (RS 366.1 *Ordonnance du 21 juin 2013 concernant le Bureau central national Interpol Bern*)

<https://www.admin.ch/opc/fr/classified-compilation/20130208>

^b Ordinance on the Coordinated Medical Service (RS 501.31 *Ordonnance du 27 avril 2005 sur le Service sanitaire coordonné*)

<https://www.admin.ch/opc/fr/classified-compilation/20041336>

^a Federal Act on the Army and the Military Administration (RS 510.10 *Loi fédérale du 3 février 1995 sur l'armée et l'administration militaire*)

<https://www.admin.ch/opc/fr/classified-compilation/19950010>

^b Ordinance on Measures Taken by the Army against Human and Animal Epidemics (RS 510.35 *Ordonnance du 25 octobre 1955 concernant les mesures à prendre par l'armée contre les épidémies et épizooties*)

<https://www.admin.ch/opc/fr/classified-compilation/19550188>

^b Ordinance on Domestic Disaster Management by the Army (RS 513.75 *Ordonnance du 29 octobre 2003 sur l'aide militaire en cas de catastrophe dans le pays*)

<https://www.admin.ch/opc/fr/classified-compilation/20031556>

^a Federal Act on War Material (RS 514.51 *Loi fédérale du 13 décembre 1996 sur le matériel de guerre*)
<https://www.admin.ch/opc/fr/classified-compilation/19960753>

Prohibits the development, production, indirect transfer, acquisition, import, export, transit and stockpiling of nuclear, biological or chemical weapons under Article 7. It prohibits any action committed by any person who has any connection to the acquisition of WMD. This article also applies to offences committed abroad if they are in violation of international law which is binding on Switzerland.

^{b,d,f} Ordinance on War Material (RS 514.511 *Ordonnance du 25 février 1998 sur le matériel de guerre*)
<https://www.admin.ch/opc/fr/classified-compilation/19980112>

Regulates the initial authorisation and the specific authorisations that are required for the manufacture, the brokerage, the import, the export and the transit of war materials, as well as the conclusion of contracts to transfer incorporeal property, including know-how and the concession of related rights. Applies in Switzerland customs area, to Swiss customs warehouses and Swiss customs enclaves.

^a Federal Act on the Protection of the Population and Civil Protection (RS 520.1 *Loi fédérale du 4 octobre 2002 sur la protection de la population et sur la protection civile*)
<https://www.admin.ch/opc/fr/classified-compilation/20011872>

^b Ordinance on the Federal Staff Civil Protection (RS 520.17 *Ordonnance du 2 mars 2018 sur l'État-major fédéral Protection de la population*)
<https://www.admin.ch/opc/fr/classified-compilation/20171280>

^b Ordinance on the National Emergency Operations Centre (RS 520.18 *Ordonnance du 17 octobre 2007 sur la Centrale nationale d'alarme*)
<https://www.admin.ch/opc/fr/classified-compilation/20063371>

^a Federal Act on Customs (RS 631.0 *Loi du 18 mars 2005 sur les douanes*)
<https://www.admin.ch/opc/fr/classified-compilation/20030370>

^{b,d,f} Ordinance on Customs (RS 631.01 *Ordonnance du 1er novembre 2006 sur les douanes*)
<https://www.admin.ch/opc/fr/classified-compilation/20052713>

^b Ordinance on Competencies of the Federal Customs Administration in Criminal Matters (RS 631.09 *Ordonnance du 4 avril 2007 réglant les compétences de l'Administration fédérale des douanes en matière pénale*)
<https://www.admin.ch/opc/fr/classified-compilation/20070458>

^{b,h} Ordinance on the Transportation of Hazardous Goods on the Road (RS 741.621 *Ordonnance du 29 novembre 2002 relative au transport des marchandises dangereuses par route*)

<https://www.admin.ch/opc/fr/classified-compilation/20022136>

Regulates the transport of dangerous materials by automobiles or other mediums of transport on roads open to those same vehicles.

^{b,h} Ordinance on Hazardous Goods Representatives for the Transportation of Hazardous Goods on the Road, by Air or by Sea (RS 741.622 *Ordonnance du 15 juin 2001 sur les conseillers à la sécurité pour le transport de marchandises dangereuses par route, par rail ou par voie navigable*)

<https://www.admin.ch/opc/fr/classified-compilation/20001699>

Determines the appointment, tasks, training and examination of persons charged with reducing risks to people, property and the environment during transportation of hazardous goods or packaging operations, shipment or loading and unloading associated with this transport.

^{b,h} Ordinance on the Transportation of Hazardous Goods by Railway and Aerial Railway (RS 742.412 *Ordonnance du 31 octobre 2012 sur le transport de marchandises dangereuses par chemin de fer et par installation à câbles*)

<https://www.admin.ch/opc/fr/classified-compilation/20121700>

^a Federal Act on Surveillance of Postal Mail and Telecommunications (RS 780.1 *Loi fédérale du 18 mars 2016 sur la surveillance de la correspondance par poste et télécommunication*)

<https://www.admin.ch/opc/fr/classified-compilation/20122728>

^b Ordinance on Surveillance of Postal Mail and Telecommunications (RS 780.11 *Ordonnance du 15 novembre 2017 sur la surveillance de la correspondance par poste et télécommunication*)

<https://www.admin.ch/opc/fr/classified-compilation/20172173>

^{b,h} Ordinance on the Transplantation of Organs, Tissues and Cells of Animal Origin (RS 810.213 *Ordonnance du 16 mars 2007 sur la transplantation d'organes, de tissus et de cellules d'origine animale*)

<https://www.admin.ch/opc/fr/classified-compilation/20051808>

^{b,h} Ordinance on Clinical Trials with Therapeutic Products (RS 810.305 *Ordonnance du 20 septembre 2013 sur les essais cliniques dans le cadre de la recherche sur l'être humain*)

<https://www.admin.ch/opc/fr/classified-compilation/20121176>

^{b,f,h} Ordinance on Pharmaceuticals (RS 812.212.21 *Ordonnance du 17 octobre 2001 sur les médicaments*)

<https://www.admin.ch/opc/fr/classified-compilation/20011787>

Regulates: a. authorization of medicines on the market ready for use, b. authorization processes of surface treatment of labile blood products, c. classification criteria for categories of delivery, d. distribution restrictions, e. authorization of mail order drugs, f. market surveillance and vigilance.

^{a,g} Federal Act on the Protection against Dangerous Substances and Preparations (RS 813.1 *Loi fédérale du 15 décembre 2000 sur la protection contre les substances et les préparations dangereuses*)
<https://www.admin.ch/opc/fr/classified-compilation/19995887>

Protects the lives and health of human beings from the harmful effects of substances or preparations.

^{b,h} Ordinance on Good Laboratory Practice (RS 813.112.1 *Ordonnance du 18 mai 2005 sur les bonnes pratiques de laboratoire*)

<https://www.admin.ch/opc/fr/classified-compilation/20031589>

Fixes the principles of good laboratory practices, guarantees the quality of studies and regulates the verification of these requirements.

^{b,f,h} Ordinance on Marketing and Handling Biocidal Products (RS 813.12 *Ordonnance du 18 mai 2005 concernant la mise sur le marché et l'utilisation des produits biocides*)

<https://www.admin.ch/opc/fr/classified-compilation/20021524>

Regulates marketing of biocidal products and their active substances, particularly the various types and licensing procedures, the use of data from previous requests for the benefit of new applicants, and the classification of packaging, labelling and safety data sheets.

^{a,g} Federal Act on the Protection of the Environment (RS 814.01 *Loi fédérale du 7 octobre 1983 sur la protection de l'environnement*)

<https://www.admin.ch/opc/fr/classified-compilation/19830267>

^{b,d,f,h} Ordinance on the Protection against Major Accidents (RS 814.012 *Ordonnance du 27 février 1991 sur la protection contre les accidents majeurs*)

<https://www.admin.ch/opc/fr/classified-compilation/19910033>

Covers activities involving the contained use of genetically modified organisms and pathogenic organisms in laboratories, production facilities, greenhouses and premises housing animals.

^{b,h} Ordinance on Waste Management (RS 814.600 *Ordonnance du 4 décembre 2015 sur la limitation et l'élimination des déchets*)

<https://www.admin.ch/opc/fr/classified-compilation/20141858>

^{a,g} Federal Act on non-Human Genetic Engineering (RS 814.91 *Loi fédérale du 21 mars 2003 sur l'application du génie génétique au domaine non humain*)

<https://www.admin.ch/opc/fr/classified-compilation/19996136>

Protects humans, animals and the environment against the abuse of genetic engineering, and ensures that applications of genetic engineering serve humans, animals and the environment.

^{b,h} Ordinance on the Release of Organisms into the Environment (RS 814.911 *Ordonnance du 10 septembre 2008 sur l'utilisation d'organismes dans l'environnement*)

<https://www.admin.ch/opc/fr/classified-compilation/20062651>

Protects humans, animals and the environment, as well as biodiversity and sustainable use of its components against the dangers and outrages associated with the use of organisms, their metabolites and their waste.

^{b,h} Ordinance on the Contained Use of Organisms (RS 814.912 *Ordonnance du 9 mai 2012 sur l'utilisation des organismes en milieu confiné*)

<https://www.admin.ch/opc/fr/classified-compilation/20100803>

Protects people and the environment and in particular communities of animals and plants and their habitats, against harmful effects or nuisances of the contained use of organisms. Contributes to the maintenance of biodiversity and soil fertility. Regulates the contained use of organisms, in particular genetically modified or pathogenic organisms.

^{b,h} Ordinance on Transborder Traffic of Genetically Modified Organisms (RS 814.912.21 *Ordonnance du 3 novembre 2004 sur les mouvements transfrontières des organismes génétiquement modifiés*)

<https://www.admin.ch/opc/fr/classified-compilation/20031535>

Regulates the transborder transport of GMOs. Does not apply to medicines for human use which contain GMOs.

^a Federal Act on Foods and Commodities (RS 817.0 *Loi fédérale du 20 juin 2014 sur les denrées alimentaires et les objets usuels*)

<https://www.admin.ch/opc/fr/classified-compilation/20101912>

^{b,h} Ordinance on Foods and Commodities (RS 817.02 *Ordonnance du 16 décembre 2016 sur les denrées alimentaires et les objets usuels*)

<https://www.admin.ch/opc/fr/classified-compilation/20143388>

^b Ordinance on Maximum Levels of Pesticide Residues Present in or on Products of Vegetable or Animal Origin (RS 817.021.23 *Ordonnance du DFI du 16 décembre 2016 sur les limites maximales applicables aux résidus de pesticides présents dans ou sur les produits d'origine végétale ou animale*)

<https://www.admin.ch/opc/fr/classified-compilation/20143405>

^{b,h} Ordinance on Genetically Modified Foods (RS 817.022.51 *Ordonnance du DFI du 23 novembre 2005 sur les denrées alimentaires génétiquement modifiées*)

<https://www.admin.ch/opc/fr/classified-compilation/20050176>

^{b,h} Ordinance on Hygiene when Handling Food (RS 817.024.1 *Ordonnance du DFI du 16 décembre 2016 sur l'hygiène dans les activités liées aux denrées alimentaires*)

<https://www.admin.ch/opc/fr/classified-compilation/20143394>

^{b,h} Ordinance on the Enforcement of the Legislation on Foods (RS 817.042 *Ordonnance du DFI du 16 décembre 2016 sur l'exécution de la législation sur les denrées alimentaires*)

<https://www.admin.ch/opc/fr/classified-compilation/20143389>

^{b,h} Ordinance on Animal Slaughter and Meat Control (RS 817.190 *Ordonnance du 16 décembre 2016 concernant l'abattage d'animaux et le contrôle des viandes*)

<https://www.admin.ch/opc/fr/classified-compilation/20162765>

^{b,h} Ordinance on Animal Slaughter Hygiene (RS 817.190.1 *Ordonnance du DFI du 23 novembre 2005 concernant l'hygiène lors de l'abattage d'animaux*)

<https://www.admin.ch/opc/fr/classified-compilation/20051438>

^{a,c,e,g} Federal Act on the Control of Communicable Human Diseases (RS 818.101 *Loi fédérale du 28 septembre 2012 sur la lutte contre les maladies transmissibles de l'homme*)

<https://www.admin.ch/opc/fr/classified-compilation/20071012>

Regulates fight against diseases transmissible to man by stating that the Confederation and the cantons take the necessary measures, including biosafety precautions, to protect human beings against pathogens including those genetically modified. Regulates identification of laboratories through permits delivered by the Swiss Institute of Therapeutic Products. Regulates the trade in pathogenic agents and requires an authorisation from every person disseminating pathogens for research or commerce. Entitles the Federal Council to regulate the transport, importation, exportation and the transit of pathogens, to limit or to ban the use of certain pathogens, to fix the conditions for persons using pathogens. Outlines the provisions for quarantine, vaccination, and disease surveillance and reporting requirements. Provides for imprisonment or fines anyone who intentionally or by negligence does not respect the prescriptions of the Federal Act.

^{b,d,f,h} Ordinance on the Control of Communicable Human Diseases (RS 818.101.1 *Ordonnance du 29 avril 2015 sur la lutte contre les maladies transmissibles de l'homme*)

<https://www.admin.ch/opc/fr/classified-compilation/20133212>

^{b,h} Ordinance on the Declaration of Observations of Communicable Human Diseases (RS 818.101.126 *Ordonnance du DFI du 1 décembre 2015 sur la déclaration d'observations en rapport avec les maladies transmissibles de l'homme*)

<https://www.admin.ch/opc/fr/classified-compilation/20151622>

^{b,h} Ordinance on Microbiological Laboratories (RS 818.101.32 *Ordonnance du 29 avril 2015 sur les laboratoires de microbiologie*)

<https://www.admin.ch/opc/fr/classified-compilation/20143116>

^{b,h} Ordinance Relating to the Act of Labour (RS 822.114 *Ordonnance 4 du 18 août 1993 relative à la loi sur le travail*)

<https://www.admin.ch/opc/fr/classified-compilation/19930255>

^{b,h} Ordinance on the Protection of Workforce against Microbiological Risks (RS 832.321 *Ordonnance du 25 août 1999 sur la protection des travailleurs contre les risques liés aux micro-organismes*)

<https://www.admin.ch/opc/fr/classified-compilation/19994946>

Defines micro-organisms and genetically modified micro-organisms and techniques for genetic modification. Requires the regular identification and evaluation of the risks to which workers are exposed and the notification of the "Bureau de Biotechnologie de la Confédération" by employers. Defines general security measures for the protection of the workers by employers. Covers activities involving the contained use of genetically modified organisms and pathogenic organisms in laboratories, production facilities, greenhouses and premises housing animals.

^{a,c,e,g} Federal Act on Agriculture (RS 910.1 *Loi fédérale du 29 avril 1998 sur l'agriculture*)

<https://www.admin.ch/opc/fr/classified-compilation/19983407>

^b Ordinance on the Coordination of Controls on Agricultural Farms (RS 910.15 *Ordonnance du 23 octobre 2013 sur la coordination des contrôles dans les exploitations agricoles*)

<https://www.admin.ch/opc/fr/classified-compilation/20130217>

^{b,h} Ordinance on Primary Production (RS 916.020 *Ordonnance du 23 novembre 2005 sur la production primaire*)

<https://www.admin.ch/opc/fr/classified-compilation/20051718>

^{b,h} Ordinance on the Release of Phytopharmaceutical Products (RS 916.161 *Ordonnance du 12 mai 2010 sur la mise en circulation des produits phytosanitaires*)

<https://www.admin.ch/opc/fr/classified-compilation/20100203>

Ensures that plant protection products lend themselves well in their intended use and as those are used in accordance with the requirements preventing unacceptable side effects on the health of humans, animals and the environment.

^{b,f,h} Ordinance on Plant Protection (RS 916.20 *Ordonnance du 27 octobre 2010 sur la protection des végétaux*)

<https://www.admin.ch/opc/fr/classified-compilation/20101847>

Protects plants of all sorts against the nuisances of dangerous organisms, and protects agriculture and horticulture fields from the same organisms.

^b Ordinance on the Control of Milk (RS 916.351.0 *Ordonnance du 20 octobre 2010 sur le contrôle du lait*)

<https://www.admin.ch/opc/fr/classified-compilation/20100941>

^{b,h} Ordinance on the Milk Production Hygiene (RS 916.351.021.1 *Ordonnance du DFI du 23 novembre 2005 réglant l'hygiène dans la production laitière*)

<https://www.admin.ch/opc/fr/classified-compilation/20051436>

^{a,c,e,g} Federal Act on Animal Diseases (RS 916.40 *Loi du 1er juillet 1966 sur les épizooties*)

<https://www.admin.ch/opc/fr/classified-compilation/19660145>

^{b,d,f,h} Ordinance on the Control of Animal Diseases (RS 916.401 *Ordonnance du 27 juin 1995 sur les épizooties*)

<https://www.admin.ch/opc/fr/classified-compilation/19950206>

Designates new contagious animal diseases and defines the measures of control of and the organization of the fight against animal diseases, as well as the compensation of animal keepers.

^{b,h} Ordinance on the Disposal of Animal Side Products (RS 916.441.22 *Ordonnance du 25 mai 2011 concernant l'élimination des sous-produits animaux*)

<https://www.admin.ch/opc/fr/classified-compilation/20101486>

Ensures that animal by-products do not endanger human and animal health and do not harm the environment. Allows as much as possible the recovery of animal by-products. Ensures that the infrastructure for the disposal of animal by-products is available.

^{b,d,f} Ordinance on Import, Transit and Export of Animals and Animal Products Exchanged with Third Countries (RS 916.443.10 *Ordonnance du 18 novembre 2015 réglant les échanges d'importation, de transit et d'exportation d'animaux et de produits animaux avec les pays tiers*)

<https://www.admin.ch/opc/fr/classified-compilation/20151237>

Regulates the import, transit and export of animals, animal by-products and animal products.

^{b,d,f} Ordinance on Import, Transit and Export of Animals and Animal Products Exchanged with EU Member States, Iceland and Norway (RS 916.443.11 *Ordonnance du 18 novembre 2015 réglant les échanges d'importation, de transit et d'exportation d'animaux et de produits animaux avec les Etats membres de l'UE, l'Islande et la Norvège*)

<https://www.admin.ch/opc/fr/classified-compilation/20151238>

Regulates the import, transit and export of animals, animal by-products and animal products.

^{a,c,e,g} Federal Act on the Control of Goods Suitable for Civilian and Military Purposes and Specific Military Goods (RS 946.202 *Loi fédérale du 13 décembre 1996 sur le contrôle des biens utilisables à des fins civiles et militaires et des biens militaires spécifiques*)

<https://www.admin.ch/opc/fr/classified-compilation/19960740>

Regulates, inter alia, the import, export and transit of microorganisms and toxins. Applies to dual-use goods and specific military goods which are the subject of international agreements. Also outlines the responsibilities of the Federal Council in this regard including licensing and reporting requirements and surveillance measures for import, export, transit, production, storage, transfer and use of goods.

- ^{b,d,f} Ordinance on the Control of Goods Suitable for Civilian and Military Purposes, Specific Military Goods and Strategic Goods (RS 946.202.1 *Ordonnance du 3 juin 2016 sur le contrôle des biens utilisables à des fins civiles et militaires, des biens militaires spécifiques et des biens stratégiques*)
<https://www.admin.ch/opc/fr/classified-compilation/20151950>
Regulates the export, import and transit of goods usable for civilian and military purposes, specific military goods and strategic goods which are the subject of international control measures not binding pursuant to international law. Applies in Swiss customs area to Swiss customs warehouses and Swiss customs enclaves.
- ^{b,d,f} Ordinance on the Control of Chemicals Suitable for Civilian and Military Purposes (RS 946.202.21 *Ordonnance du 21 août 2013 sur le contrôle des produits chimiques utilisables à des fins civiles et militaires*)
<https://www.admin.ch/opc/fr/classified-compilation/20121582>
- ^{b,d} Ordinance Establishing Measures against Persons and Entities Linked to Osama bin Laden, the al-Qaeda Group or the Taliban (RS 946.203 *Ordonnance du 2 octobre 2000 instituant des mesures à l'encontre de personnes et entités liées à Oussama ben Laden, au groupe «Al-Qaïda» ou aux Taliban*)
<https://www.admin.ch/opc/fr/classified-compilation/19996052>
- ^{a,c} Federal Act on Sanctions on Trade with Foreign Countries (RS 946.231 *Loi fédérale du 22 mars 2002 sur l'application de sanctions internationales*)
<https://www.admin.ch/opc/fr/classified-compilation/20000358>
- ^{b,d} Ordinance on Measures against the Democratic People's Republic of Korea (RS 946.231.127.6 *Ordonnance du 18 mai 2016 instituant des mesures à l'encontre de la République populaire démocratique de Corée*)
<https://www.admin.ch/opc/fr/classified-compilation/20161091>
- ^b Ordinance of the Swiss Financial Market Supervisory Authority on Combatting Money Laundering and Financing of Terrorism in the Financial Sector (RS 955.033.0 *Ordonnance de l'Autorité fédérale de surveillance des marchés financiers du 3 juin 2015 sur la lutte contre le blanchiment d'argent et le financement du terrorisme dans le secteur financier*)
<https://www.admin.ch/opc/fr/classified-compilation/20143112>
- ^b Ordinance on the Reporting Bureau in Matters of Money Laundering (RS 955.23 *Ordonnance du 25 août 2004 sur le Bureau de communication en matière de blanchiment d'argent*)
<https://www.admin.ch/opc/fr/classified-compilation/20031873>

Titles in English are unofficial translations that are provided for information purposes only and have no legal force. To access legal documents please consult the Swiss Federal Legislation in either French (links above), German or Italian. Some additional information may also be obtained in the framework of UNSCR 1540 at: <https://www.un.org/en/sc/1540/national-implementation/national-reports.shtml>

Declaration of past activities in offensive and/or defensive biological research and development programmes

In the interest of increasing transparency and openness, States parties shall declare whether or not they conducted any offensive and/or defensive biological research and development programmes since 1 January 1946.

If so, States parties shall provide information on such programmes, in accordance with Form F.

Declaration of past activities in offensive and/or defensive biological research and development programmes

1. *Date of entry into force of the Convention for the State Party*

4 May 1976

2. *Past offensive biological research and development programmes*

No

Period of activities

n/a

Summary of the research and development activities indicating whether work was performed concerning production, test and evaluation, weaponization, stockpiling of biological agents, the destruction programme of such agents and weapons, and other related research.

n/a

3. *Past defensive biological research and development programmes*

Yes

Period of activities

1997 to present

Summary of the research and development activities indicating whether or not work was conducted in the following areas: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination, and other related research, with location if possible.

Please refer to Form A, part 2 (ii) [➤ pages 14 to 26] as well as past CBM declarations.

Declaration of vaccine production facilities

To further increase the transparency of biological research and development related to the Convention and to broaden scientific and technical knowledge as agreed in Article X, each State party will declare all facilities, both governmental and non-governmental, within its territory or under its jurisdiction or control anywhere, producing vaccines licensed by the State party for the protection of humans. Information shall be provided on Form G attached.

Declaration of vaccine production facilities

Name of company / facility **Janssen Vaccines AG**

Location of production facility Rehlagstrasse 79
CH-3018 Bern

Geographical location N 46° 56' 06.79", E 7° 23' 09.50"

Disease(s) targeted		Name of vaccine	Trial phase		Licensed
1.	Ebola virus disease	Ad26.ZEBOV	<input checked="" type="checkbox"/>	Phase 2	<input type="checkbox"/>
2.	Bacteremia (extraenous pathogenic <i>E. coli</i>)	ExPEC 4V	<input checked="" type="checkbox"/>	Phase 2	<input type="checkbox"/>
3.	Bacteremia (extraenous pathogenic <i>E. coli</i>)	ExPEC Multivalent	<input checked="" type="checkbox"/>	Phase 1	<input type="checkbox"/>
4.	Irritable bowel syndrome	Ve-202	<input checked="" type="checkbox"/>	Phase 1	<input type="checkbox"/>

Declaration of vaccine production facilities

Name of company / facility **PaxVax Berna GmbH**

Location of production facility Oberriedstrasse 68
CH-3174 Thörishaus

Geographical location N 46° 53' 25.95", E 7° 21' 24.23"

Disease(s) targeted	Name of vaccine	Trial phase	Licensed
1. Typhoid fever	Vivotif	<input type="checkbox"/>	<input checked="" type="checkbox"/>