

PFA

**Apicoltura, produzioni e patologie delle api: attività, accettazione
dei campioni e sicurezza in apiario**



27 novembre 2019

**IZS Lazio e Toscana
Via Appia Nuova, 1411 - Roma**

Le attività dell'apicoltura, produzioni e patologie delle api

Dr. Giovanni Formato

IEP Apicoltura, Produzioni e Patologie delle api - IZSLT



Apicoltura, Produzioni e Patologie delle api



Contenuti della presentazione

Storia

Attività

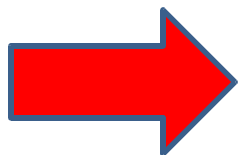
Prospettive e conclusioni



Apicoltura, Produzioni e Patologie delle api



Contenuti della presentazione



Storia

Attività

Prospettive e conclusioni





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*



Apiario IZS - Settembre 2004







Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*



Apiario IZS - Gennaio 2005





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana M. Aleandri

Istituzione della UO di Apicoltura

**ISTITUTO ZOOPROFILATTICO SPERIMENTALE
DELLE REGIONI LAZIO E TOSCANA
ROMA**

DELIBERAZIONE DEL DIRETTORE GENERALE

n. 323 del 25/05/2010

OGGETTO: Istituzione Unità Operativa "Apicoltura"

La presente deliberazione si compone di n. ____ pagine

Proposta di deliberazione n. del
Direzione/Ufficio di staff.....
L' Estensore.....
Il Responsabile del procedimento
Il Dirigente

Delibera del Direttore Generale n. 323 del 25/05/2010

Parere del Direttore Amministrativo
Dott. Antonio Cirillo

☒ Favorevole ☐ Non favorevole
Data 25.5.2010

Parere del Direttore Sanitario
Dott. Remo Rosati

☒ Favorevole ☐ Non favorevole
Data 25.5.2010

IL DIRETTORE GENERALE
(Dott. Nazareno Renzo Brizioli)



A) Istituire, con decorrenza immediata, una unità operativa “**Apicoltura**” per svolgere i seguenti compiti:

1. pianificazione e realizzazione dei piani di lotta, di profilassi, risanamento ed eradicazione delle patologie delle api;
2. servizio di diagnosi delle malattie delle api, inclusi l'esame ispettivo dei telaini e degli alveari, gli aspetti di batteriologia, virologia e biologia molecolare;
3. supporto tecnico-scientifico e collaborazione con altri Enti, privati o Pubblici (quali, ad esempio, i Servizi Veterinari delle Aziende USL, la Regione ed il Ministero della Salute) ed Associazioni di categoria, per la stesura di normative, progetti ed attività di ricerca inerenti l'apicoltura;
4. esami microbiologici chimico-fisici, residuali, sensoriali e melissopalinologici dei mieli e dei prodotti dell'alveare;
5. ricerca e sperimentazione in ambito apistico, in particolare sulla eziologia, patogenesi e profilassi delle patologie delle api, anche mediante convenzioni con altri Enti, italiani o stranieri;
6. supporto tecnico-scientifico ed operativo agli allevatori ed agli altri operatori di settore per il miglioramento delle produzioni della filiera miele, a partire dall'allevamento delle api;
7. esami morfometrici delle api, selezione genetica e fecondazione artificiale delle regine;
8. supporto tecnico-scientifico alle attività sul territorio delle Aziende USL (es. sopralluoghi di malattie denunciabili, controlli in apiario, etc.);
9. sorveglianza epidemiologica nell'ambito della sanità animale e dell'igiene degli alimenti di origine animale;
10. sviluppo delle procedure e sperimentazione di tecnologie e metodiche innovative per l'esecuzione delle analisi necessarie al controllo della salubrità dei prodotti dell'alveare ed alla diagnosi delle malattie delle api;
11. attività di supporto tecnico-scientifico e sperimentale per l'impiego delle api nel biomonitoraggio ambientale;
12. attività di formazione ed aggiornamento dei veterinari, degli apicoltori e degli altri operatori del settore apistico.

**Delibera del Direttore Generale n. 323
del 25/05/2010**

B) assegnare a tale struttura il seguente personale:

Responsabile : dott. Giovanni Formato – Medico Veterinario-
Sig.ra Marcella Milito – Collaboratore Prof. San. Cat. D

C) di dare atto che la struttura opera nell'ambito della struttura complessa Accettazione, Refertazione e Sportello dell'Utente e che potrà avvalersi per lo svolgimento delle proprie attività, di tutte le professionalità e strutture dell'Istituto.

D) attribuire il seguente centro di Costo: **DIA/ACC/API**

E) dare atto che il presente provvedimento, di carattere organizzativo, non comporta aumento di spesa.



IL DIRETTORE GENERALE
F.to Dott. Nazareno Renzo Brizioli



Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*

Predisposizione di un apiario recintato – luglio 2009



01/02/2019

Incarico di Elevata Professionalità (IEP) relativamente al laboratorio di “Apicoltura, Produzioni e Patologie delle api” presso l’IZS Lazio e Toscana (D.G. n. 71 del 01/02/2019).





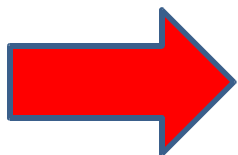
Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*

Apicoltura, Produzioni e Patologie delle api



Contenuti della presentazione

Storia



Attività

Prospettive e conclusioni



Controlli ufficiali

(es. controlli api regine importate, apertura e gestione focolai malattie denunciabili api)

Partecipazione Gruppi di ricerca internazionali (COLOSS – FAO- VETS4BEES)

Attività analitica di routine (Supporto AA.SS.LL., NAS, apicoltori)

Monitoraggio della moria delle api quale indicatore per uso sostenibile pesticidi
Allegato al Decreto 15/7/2015 del Ministero dell'Ambiente

Società Scientifica Veterinari in Apicoltura (SVETAP): presidenza e sede legale

Organizzazione eventi nazionali ed Internazionali

es. Impiego farmaco in apic con Min Sal, Symposium HB HEALTH 13-15/02/2019



N.	Titolo Attività di ricerca	Finanziamento	Durata
1	FAO – Linee guida per manuale BPA per piccole-medie imprese	FAO	13 mesi
2	BEES Vita + (mangime complementare)	Ditta mangimistica USA (HEALTHY BEES)	12 mesi
3	BPRACTICES (SUSAN, ERA-NET)	EU/MINISTERO SALUTE	36 mesi
4	TUTELA APE LIGUSTICA (da attivare entro fine 2018)	ARSIAL/REGIONE LAZIO	26 mesi
5	IZS LT 08/18 RC - TRIPANOSOMATIDI	MINISTERO SALUTE	24 mesi
6	PROGETTO «TORNO SUBITO»	REGIONE LAZIO	9 mesi
7	IZS LT 14/16 RC – ANTIBIOTICO IN APICOLTURA	MINISTERO SALUTE	36 mesi
8	IZS LT 08/18 RC – Implementazione sorveglianza SHB	MINISTERO SALUTE	24 mesi
9	INSIGNIA – monitoraggio ambientale con le api	DG SANTE	36 mesi
10	FAO – Expert Consultation meeting – World Bee Day	FAO	7 mesi
11	IZS LT 0419 – Virosi delle api	MINISTERO SALUTE	24 mesi





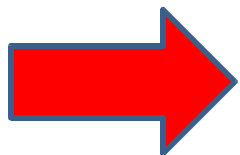
Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*

Apicoltura, Produzioni e Patologie delle api



Contenuti della presentazione

Introduzione



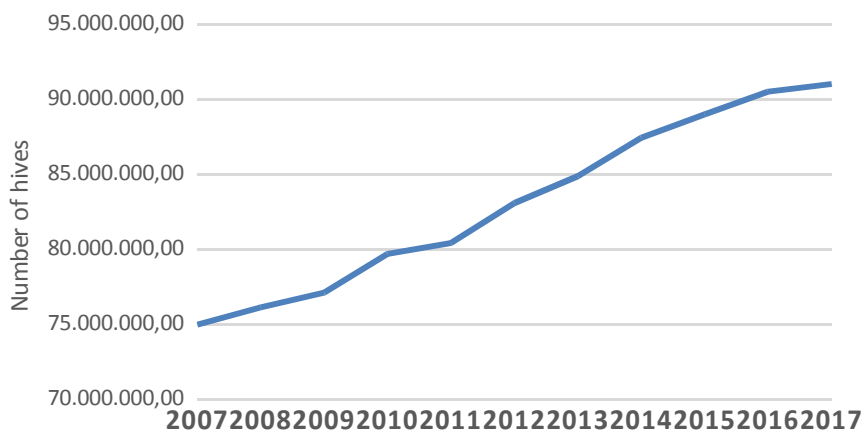
Attività in collaborazione con la FAO nel settore apicoltura

Prospettive e conclusioni



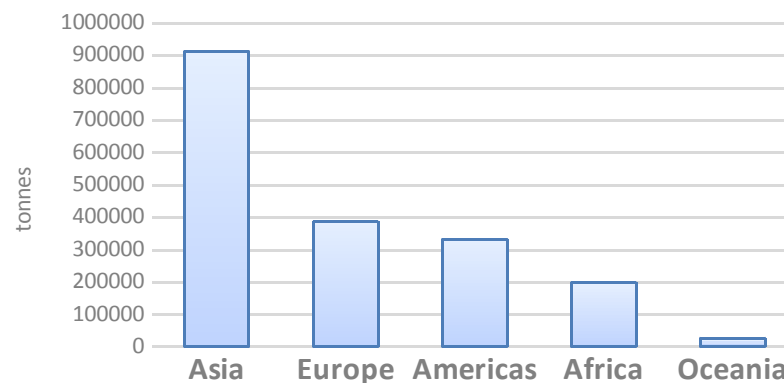
Una panoramica sul settore apistico a livello globale

(FAO-Stat data)



Managed world honey bee populations

Top 9 honey producers distributed by geographic areas



Top nine honey producer Countries





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*

Non sicuro | www.fao.org/home/en/



Food and Agriculture Organization
of the United Nations

العربية 中文 **ENGLISH** FRANÇAIS РУССКИЙ ESPAÑOL

Google Custom Search



Home ▾

About FAO ▾

In Action ▾

Countries ▾

Themes

Media ▾

Publications

Statistics ▾

Partnerships ▾

WEBSITE

Safeguarding biodiversity for food and agriculture

The air we breathe, the water we drink and the food
we eat all rely on biodiversity. Learn more about its
vital role.





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*

TECA discussions



2016

Veterinary medicines in beekeeping around the world. Which active ingredients are in use and do they respond to the needs of beekeepers?

2017

Simplified field methods for diagnosis of honey bee diseases and GBPs to prevent them

TECA
Technologies and practices for small agricultural producers

Welcome to TECA !

TECA is a platform where you can find practical information – **agricultural technologies and practices** – to help small producers in the field. In addition, you can interact with people with similar interests and discuss sustainable solutions for your work in our online forums – or **Exchange Groups**.

Interested in successful farming practices contributing to climate adaptation, we kindly invite you to participate in our discussion on **"Adaptation Practices in Agriculture"**.

Search Technologies

Enter keywords

Search Advanced search

Visit our Exchange Groups

- Beekeeping Exchange Group**
- Farmer Innovation Exchange Group**
- Institutionalizing FFS**
- SALSA Project Communication and**



Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*

Questionario sull'impiego del farmaco veterinario in apicoltura

 Food and Agriculture
Organization of the
United Nations

English ▾



Select the region in which you house your bees:





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*

Good beekeeping practices and veterinary medicines' use

In which region are you located?

Select your profession among:

How many beehives do you have?

What diseases have you already heard about? (Sm)

Can you give a score to each disease according to its impact on the honeybee health in your apiary? (Sm)

Do you think that observing good beekeeping practices alone, without the use of active ingredients or medicines, could guarantee the health of your hives (regarding the following diseases)? (Sm)

Do you think that veterinary medicines are necessary in apiculture to guarantee the health of your hives (regarding the following diseases)? (Sm)

Have you ever seen a Varroa mite? (CI)

Which are the active ingredients you normally use in your apiary in the treatment against Varroa? (Sm)

Before treating your hives against Varroa, do you check the level of infestation (mite count)? (CI)

If not yet available, which active ingredients would you like to have in your country as registered and authorized ingredients? (Sm)

Experiencing a global survey to collect data on honeybee disease management and beekeeping practices

Ziad Mezher¹, Jernej Bubnic², Charlotte Lietaer³, Roberto Condoleo¹, Riccardo Jannnoni-Sebastianini⁴, Andrea Leto¹, Giovanni Formato¹

¹ Istituto Zooprofilattico Sperimentale del Lazio e della Toscana *M. Aleandri*, Rome – Italy

² Agriculture Institute of Slovenia, Ljubljana - Slovenia

³ Food and Agriculture Organization of the United Nations (FAO)

⁴ International Federation of Beekeepers' Associations (Apimondia)

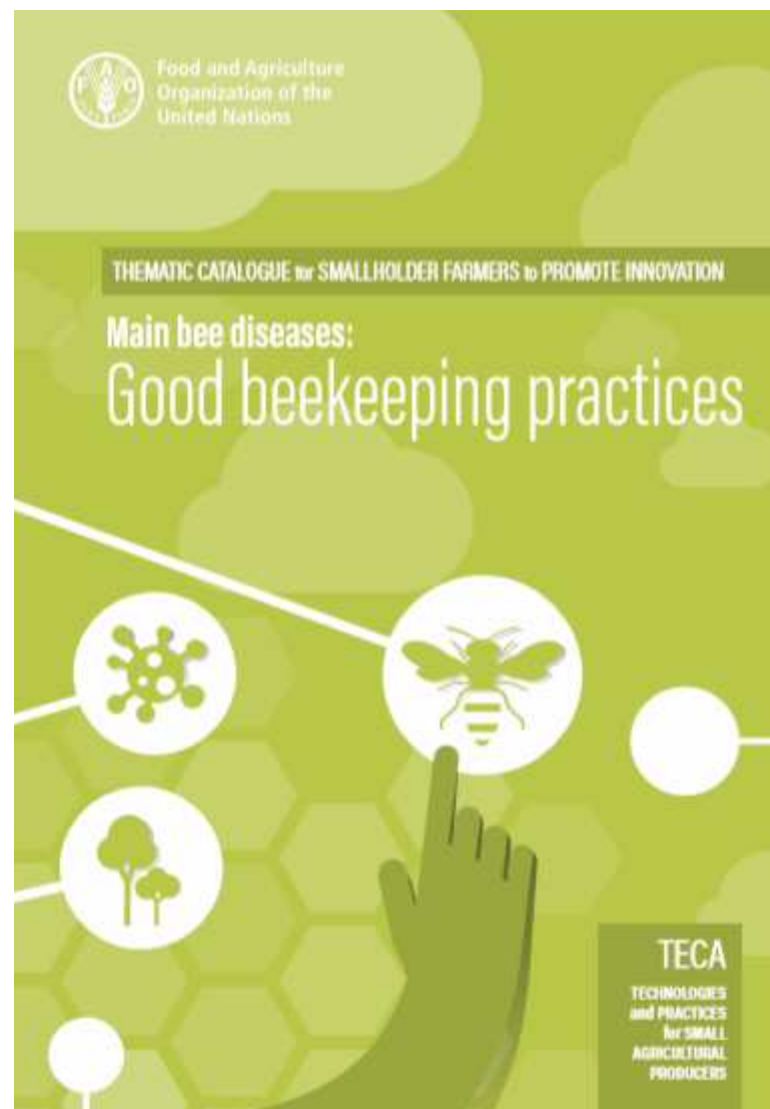
Abstract

Beekeeping is a farming activity that requires multidisciplinary approach. Successful beekeepers must have extended knowledge on honeybee biology, diseases, pests and many other fields. Several studies have suggested that knowledge of beekeepers plays a vital role in the achievement of successful beekeeping. In this study, information about beekeeper's perception of the main honeybee diseases and their controlling methods, the use of veterinary medicinal products (VMPs) and beekeeper's perspective about veterinary and technical assistance in beekeeping was gathered through an online survey. Results indicated that beekeepers are keen on having more authorized VMPs available on the market in order to better control honeybee diseases and on receiving additional veterinary and technical on-field assistance. Some of the results also showed that beekeepers need further training on the use of already existing VMPs and techniques in order to increase their efficacy. More efforts should be put in education/training of beekeepers and in the organization of support services in apiculture.



2017

Raccolta di schede sulle buone
pratiche in apicoltura per la
prevenzione delle principali malattie
delle api





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana M. Aleandri

2018

منظمة
الغذية والزراعة
للأمم المتحدة

联合国
粮食及
农业组织

Food and Agriculture
Organization of the
United Nations



Organisation des
Nations Unies pour
l'alimentation et
l'agriculture

Продовольственная и
сельскохозяйственная
организация
Объединенных Наций

Organización de las
Naciones Unidas para la
Alimentación y la
Agricultura

Viale delle Terme di Caracalla, 00153 Rome, Italy

Fax: +39 0657053152

Tel: +39 0657051

www.fao.org

FAO Budget Code: 60% GF AGAHD RA20201000000, 40% GF AGAHD RA50101000000

GRMS Supplier Number: 53870

PO Number: 334292

Your Ref.:

LETTER OF AGREEMENT

Between
the Food and Agriculture Organization of the United Nations ("FAO")
and
Istituto Zooprofilattico Sperimentale delle Regioni Lazio e Toscana 'M. Aleandri'
Via Appia Nuova n. 1411, 00178 Rome (Italy)

For provision of
"Guidelines for a proper use of antimicrobials in apiculture"

I. Introduction

The Food and Agriculture Organization of the United Nations (hereinafter referred to as "FAO") and the Istituto Zooprofilattico Sperimentale delle Regioni Lazio e Toscana 'M. Aleandri' (hereinafter referred to as the "Service Provider") (together hereinafter referred to as the "Parties") have agreed that the Service Provider will provide certain services defined in detail in the attached Annex (the "Services") which forms an integral part of this Letter of Agreement (hereinafter the "Agreement") in support of the education to the proper use of antimicrobials in apiculture.

To enable the Service Provider to provide the Services, FAO will pay the Service Provider a total amount not exceeding 16,800 Euro (sixteen-thousand eight hundred euro), which represents FAO's maximum



“Guidelines for proper use of antimicrobials in beekeeping”



Photos by Giovanni Formato - IZSLT

Contents

List of contributors	3
Foreword	5
Acknowledgements	8
Executive summary	9
1. A global overview of the apicultural sector	10
2. Prevention is better than cure: the role of GBPs and BMBs	13
Good Beekeeping Practices (GBPs)	13
Biosecurity Measures in Beekeeping (BMBs)	15
3. How to use veterinary medicines in beekeeping in a prudent and medically efficient way	19
4. Main honey bee diseases	25
Varroosis	28
American Foulbrood	37
European Foulbrood	44
Nosemosis	51
Stone brood (aspergillosis)	59
5. The Progressive Management Pathway (PMP) in the beekeeping sector	65
6. Conclusions	75
Glossary	76
Annex 1 – Good Beekeeping Practices (GBPs) list	81
Annex 2 - Biosecurity Measures in Beekeeping (BMBs) list	88
Annex 3 - Risk Assessment tools: the surveys	92
I. Survey on varroa management	96
II. Survey on infectious disease management	100
III. Survey on antibiotic resistance	105

Prevention is better than cure: GBPs and BMBs

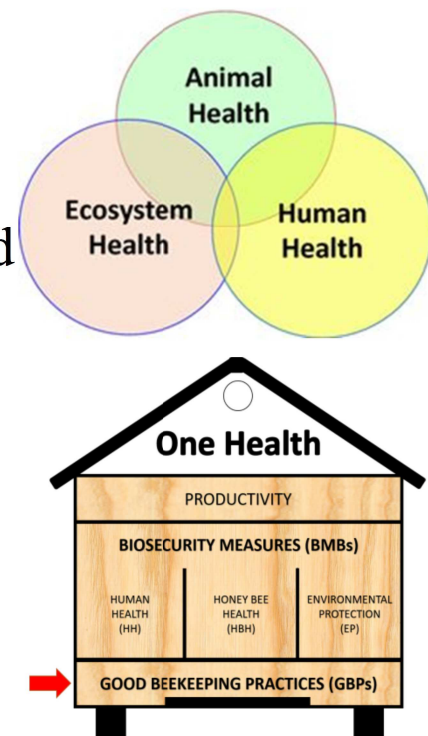
Together GBPs and BMBs guarantee the increase of honey bee health and allow the reduction of the antimicrobial use at the apiary level.

GBPs

those integrative activities that beekeepers apply for on-apiary production to attain optimal health for humans, honey bees and environment.

BMBs

Biosecurity Measures in Beekeeping (BMBs) are “all those measures implemented to reduce the risk of introduction and spread of specific honeybee disease agents”.



How to use medicines at the apiary level in a prudent and medically efficient way

General concepts on the proper use of the antimicrobials

Access to and handling of antimicrobials

Antibiotics are not the answer

Antimicrobial resistance is in the midst of one world, one health

Keeping records



Main honey bee diseases

In this chapter are described the main honey bee diseases according to the OIE and the zoonosis “aspergillosis” of the honey bees.

Varroosis

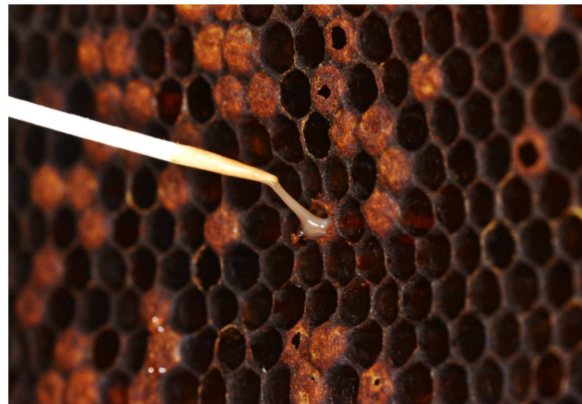


Nosemosis

American foulbrood

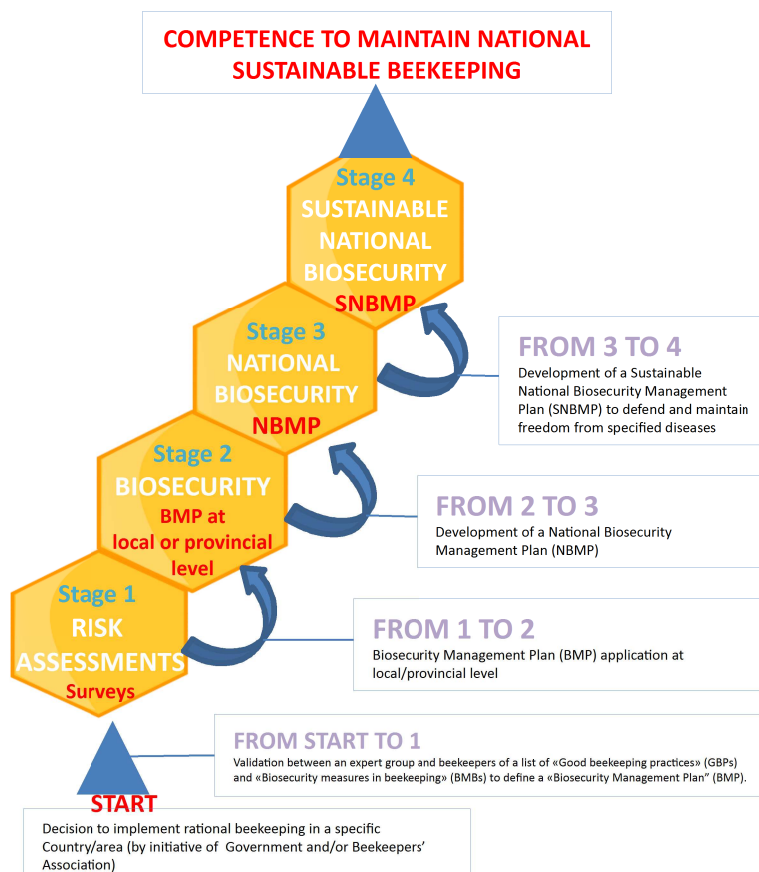
European Foulbrood

Aspergillosis





STAGE PROGRESSION in the PROGRESSIVE MANAGEMENT PATHWAY:





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*

Risk Assessment tools:

**3 surveys to evaluate the infectious diseases management
and the use of medicines in beekeeping**

Available in: English, Spanish, French, Slovenian,
Danish, Italian, Chinese, Russian





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*



Appalachian
STATE UNIVERSITY



https://appstate.az1.qualtrics.com/jfe/form/SV_79e4cEf0APggfGZ





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*



Appalachian
STATE UNIVERSITY



https://appstate.az1.qualtrics.com/jfe/form/SV_2tRRQOB02uZMFFz





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*



Appalachian
STATE UNIVERSITY



https://appstate.az1.qualtrics.com/jfe/form/SV_0rCAUp1fr9hCgXX





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana M. Aleandri

2019

منظمة
الغذية والزراعة
للأمم المتحدة

联合国
粮食及
农业组织

Food and Agriculture
Organization of the
United Nations



Organisation des
Nations Unies pour
l'alimentation et
l'agriculture

Продовольственная и
сельскохозяйственная
организация
Объединенных Наций

Organización de las
Naciones Unidas para la
Alimentación y la
Agricultura

+ Viale delle Terme di Caracalla, 00153 Rome, Italy

Fax: +39 0657053152

Tel: +39 0657051

www.fao.org

FAO Budget Code: GF.AGAGD.RA30102000000

GRMS Supplier Number: 53870

PO Number: 340550

Your Ref.:

LETTER OF AGREEMENT

Between

The Food and Agriculture Organization of the United Nations ("FAO")

and

Istituto Zooprofilattico Sperimentale del Lazio e della Toscana "M. Aleandri"

for provision of

"Development of Guidelines on Good Beekeeping Practices allowing to obtain
high quality products with a focus on small-scale farmers and beekeepers"

1. Introduction

The Food and Agriculture Organization of the United Nations (hereinafter referred to as "FAO") and the Istituto Zooprofilattico Sperimentale del Lazio e della Toscana "M. Aleandri" (hereinafter referred to as the "Service Provider") (together hereinafter referred to as the "Parties") have agreed that the Service Provider will provide the services defined in detail in the attached Annex (the "Services") which forms an integral part of this Letter of Agreement (hereinafter the "Agreement") in support of the development of guidelines on best beekeeping practices with a focus on bee products. To enable the Service Provider to provide the Services, FAO will pay the Service Provider a total amount not exceeding Euro 25 500 (twenty-five thousand five hundred Euro) which represents FAO's maximum financial liability, into the Service Provider's account specified in paragraph 2 below.



Gli outputs

Objective. The Services will contribute to the following Organizational Objectives:
reduce rural poverty in general, with a specific reference to small-scale producers and beekeepers;
increase the sustainability and resilience of small-scale producers in a changing environment;

Output 1: “Guidelines on Good Beekeeping Practices for sustainable apiculture”

Output 2: “Practical manual for beekeepers on techniques and procedures for a sustainable production”

Output 3: “Technical specifications for the procurement of beekeeping equipment for a sustainable production”.

Output 4: “Staging at least 2 events on awareness raising on sustainable beekeeping models”.





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*

Prospettive future





Mainstreaming sustainable beekeeping into FAO animal production and health programme

Proposal of LoA with IZSLT on the organization of experts consultation meeting

Background

Bees are classified as terrestrial animals by the World Organisation for Animal Health (OIE) and likewise considered as such by European Union (EU) legislation. The position and importance of honey bees in terms of their contributions to environment biodiversity, quantity and quality of agro-livestock production systems are well documented. More than 75 percent of the world's food crops rely to some extent on pollination for yield and quality. The contribution of pollination provided by honey bees (agro-environmental service) is crop dependent. Moreover, hive products itself may represent an important source of food and energy for human consumption and a relevant economic input to improve livelihoods of farmers in developing rural areas all over the world.

While bees and other pollinators are vital for food security and sustaining livelihoods in many developing countries, they are facing several threats affecting directly or indirectly their health and considerable contributions to a biodiverse ecosystem. These include land-use changes, disease and pests, poor management practices, indiscriminate use of veterinary medicines and pesticides, climate change, spread of monocultures that reduce the variety of food for bees, and globalization.. Therefore, honey bees, like other animals and livestock, must be protected in order to maintain and increase agricultural production and therefore to improve health and nutrition and ensure household food security and better incomes for smallholder farmers..

Ensuring healthy hives will full filly contribute to the 17 Sustainable Development Goals by

- increasing honey bee populations and beekeeping production systems,
- including honeybee products in the diet to promote health and quality nutrition,
- balancing animal-source food intake (like honey, pollen, royal jelly)
- traditionally involvement of women in specific hive productions (e.g. royal jelly and pollen)
- less water use and no animal manure and increasing pollination and environmental biodiversity of hive breeding
- low energy consumption of beekeeping





Practical resource book on bees for field use

Format: Interactive e-book with interlinked modules, translated in 3 languages. Certain topics are related to different modules. Content is used via link in different modules. Easy to understand, non-scientific language.

Structure:

1 Apinae

module containing general information about bee classification

- *Apis mellifera*
- *Apis cerana*
- *Apis dorsata*
- *Apis florea*

2. Bombinae

3. Meliponinae (Stingless bees)

4. *Apis mellifera*

containing general information about *Apis mellifera*, plus 3 modules concerning ranges of adaptation of *Apis mellifera* and 4 modules on beekeeping in different continents.

-3 modules concerning ranges of adaptation of *A. mellifera*:

- Near East (Irano-Ponto-Mediterran Area)
- Tropical Africa
- Mediterranean (West Mediterranean: North Africa, West Mediterranean and North Europe; Central Mediterranean and Southeast Europe;

- 4 modules on beekeeping in different continents.

- Beekeeping in Africa
- Beekeeping in Asia
- Beekeeping in Europe/Nothern America/Oceania ?
- Beekeeping in Latin America





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*

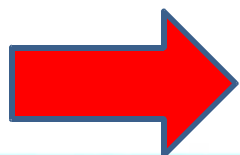
Apicoltura, Produzioni e Patologie delle api



Contenuti della presentazione

Introduzione

Attività in collaborazione con la FAO nel settore apicoltura



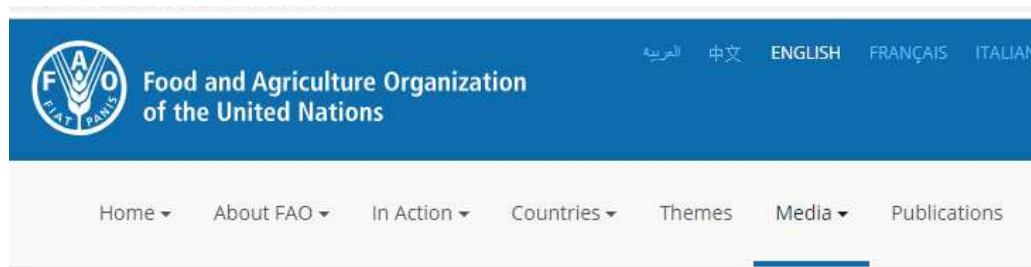
Prospettive e conclusioni





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*

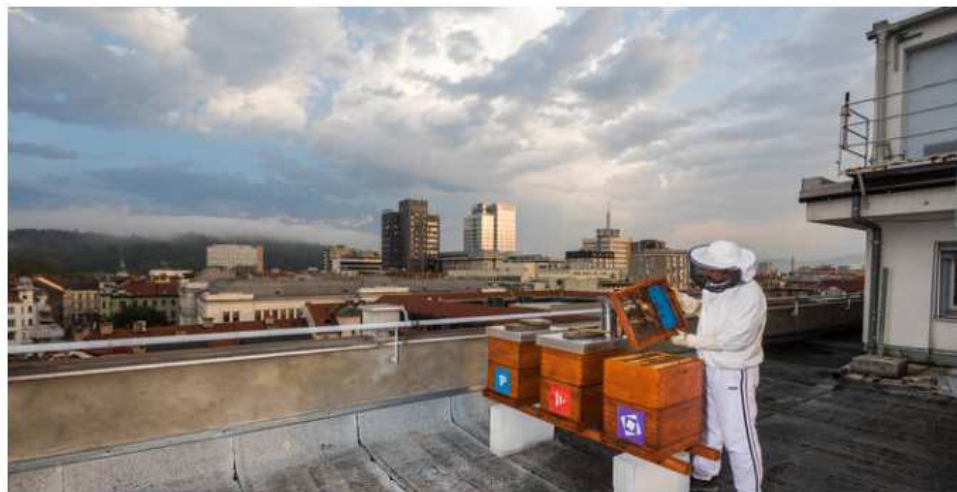
RAFFORZARE LA COLLABORAZIONE CON OIE



[HOME](#) / [MEDIA](#) / [NEWS ARTICLE](#)

Bees must be protected for the future of our food

First World Bee Day to be observed on 20 May 2018



A beekeeper in the Slovenian capital, Ljubljana. The first World Bee Day, on 20 May 2018, highlights that bees are vital to sustainable and healthy food systems.





Istituto Zooprofilattico Sperimentale
del Lazio e della Toscana *M. Aleandri*

Grazie dell'attenzione

