

Il seminario, organizzato nell'ambito del corso di laurea in **Salvaguardia del Territorio, dell'Ambiente e del Paesaggio – LM75**, è coordinato da:

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COMMUNICATING THE INTERNATIONAL YEAR OF PLANT HEALTH (IYPH 2020)	COMUNICARE L'ANNO INTERNAZIONALE DELLA SALUTE DELLE PIANTE (IYPH 2020)
<p>QUICK FACTS Plants are life Plants make up 80% of the food we eat and produce 98% of the oxygen we breathe.</p> <p>Economic benefits The annual value of trade in agricultural products has grown almost three-fold over the past decade, largely in emerging economies and developing countries, reaching USD 1.7 trillion.</p> <p>A growing demand FAO estimates that agricultural production must rise about 60% by 2050 in order to feed a larger and generally richer population.</p> <p>Pest destruction Plant pests are responsible for losses of up to 40% percent of food crops globally, and for trade losses in agricultural products worth over USD 220 billion each year.</p> <p>Climate impacts Climate change threatens to reduce not only the quantity of crops, lowering yields, but also the nutritious value. Rising temperatures also mean that more plant pests are appearing earlier and in places where they were never seen before.</p> <p>Beneficial bugs Beneficial insects are vital for plant health - for pollination, pest control, soil health, nutrient recycling – and yet, insect abundance has fallen 80% in the last 25-30 years.</p> <p>Hungry pests One million locusts can eat about one tonne of food a day, and the largest swarms can consume over 100 000 tonnes each day, or enough to feed tens of thousands of people for one year.</p>	<p>I FATTI IN BREVE Le piante sono vita Le piante costituiscono l'80% del cibo che mangiamo e producono il 98% dell'ossigeno che respiriamo.</p> <p>Benefici economici Il valore annuale degli scambi di prodotti agricoli, nell'ultimo decennio, è aumentato di quasi tre volte in gran parte delle economie emergenti e dei paesi in via di sviluppo, raggiungendo un valore stimato in 1,7 trilioni di dollari.</p> <p>Una domanda crescente La FAO stima che la produzione agricola debba aumentare di circa il 60% entro il 2050 per alimentare una popolazione più numerosa e generalmente più ricca di quella attuale.</p> <p>Distruzione dei parassiti I parassiti e i patogeni delle piante sono responsabili di circa il 40% delle perdite di prodotti agricoli nel mondo per un valore di oltre 220 miliardi di dollari all'anno.</p> <p>Impatti climatici Il cambiamento climatico minaccia di ridurre non solo la quantità di prodotti agricoli, riducendo le rese delle colture, ma anche il loro valore nutritivo. L'innalzamento delle temperature ha come conseguenza l'ampliamento degli areali di diffusione di alcuni parassiti e patogeni e l'emergenza di nuove malattie.</p> <p>Insetti utili Numerosi insetti sono fondamentali per la salute delle piante - per l'impollinazione, il controllo dei parassiti, la salute del suolo, il ciclo degli elementi - eppure gli insetti utili per l'uomo, come ad esempio le api, sono diminuiti dell'80% negli ultimi 25-30 anni.</p> <p>Parassiti infestanti Un milione di locuste può distruggere circa una tonnellata di colture al giorno e gli sciame più numerosi ne possono consumare oltre 100.000 tonnellate al giorno, abbastanza per sfamare decine di migliaia di persone per un anno.</p>

Webinars Cycle to celebrate the International Year of Plant Health proclaimed by FAO (IYPH 2020)

WEBINAR
TEAM Code:

Understanding invasive forest pathogens



27th, May, 2020, 16:00-18:00PM

Introduction to the International Year of Plant Health seminars

The United Nations General Assembly declared 2020 the International Year of Plant Health (IYPH). This is a unique opportunity to raise world awareness of how plant health protection can help meet food needs, reduce poverty, improve the quality of the environment, for example by mitigating the effects of climate change, and promote economic development.

“Plants provide the core basis for life on Earth and they are the single most important pillar of human nutrition. But, healthy plants are not something that we can take for granted,” said FAO Director-General *Qu Dongyu* who launched the Year on the sidelines of the UN agency’s Council meeting (<http://www.fao.org/news/story/en/item/1253551/icode/>)

The National Phytosanitary Service in collaboration with the Ministry of Economy and Finance and the “Istituto Poligrafico e Zecca dello Stato”, a ‘commemorative coin for the International Year of Plant Health’ has been dedicated so that the international community can recognize the importance of the plant world and its protection.



Introduction to the lecture

Invasive emergent forest pathogens comprise both native pathogens that have increased their presence in their native range or -more commonly- exotic pathogens that have been introduced in a novel range.

This seminar will present examples of both types of invasive emergent pathogens and will discuss the main mechanisms driving the introduction, establishment or lag phase, and invasion phases of exotic pathogens, or the increased spread of native pathogens.

The concept of invasiveness is presented as the relationship between the effective transmission rate (R_t) of invasive organisms and their mortality rate (MR), and is further analyzed in relation to biotic and abiotic factors. Characteristics of invasive forest pathogen populations are described in addition to, and sometimes in lieu of, the theory of lack of co-evolution which postulates that exotic pathogens are invasive because of the lack of resistance in native populations, resulting in high virulence of exotic pathogens. In fact, in many cases, intermediate virulence seems to be selected in invasive pathogens, thus contradicting the main assumption (i.e. high virulence) of the theory of coevolution.

The analysis will also include a description of adaptive selection of specific genes documented for some invasive pathogens: a trait that has been discovered for pathogens that hybridize with close relatives. Finally, the seminar will discuss options available to limit the introduction of invasive pathogens or the best practices that may be available to manage them once they have been introduced.

Visit his website www.matteolab.org for more information

Program

Ore 4:00 PM – Introduction

Prof. Santa Olga Cacciola - Patologia vegetale

Ore 4:15 PM – Lecture



Understanding invasive forest pathogens

Prof. Matteo Garbellotto Ph.D.

Professor, University of California at Berkeley, USA

Email: matteog@berkeley.edu

Ore 5:45: – Discussion

Conclusions:

Prof. Santa Olga Cacciola - Patologia vegetale

Prof. Gaetana Mazzeo - Professor of general and applied Entomology

La partecipazione al Seminario, da parte degli studenti, dà diritto al riconoscimento di
CFU