



**HERMES
MESSENGER**

Dear colleagues

Specials thanks for giving me the chance to speak about a topic directly related to the future of Plant Medicine sciences

Поштоване колеге?

***Акција захваљујући вама што сте ми дали
прилику да говорим о теми у директној вези са
будућности биља медицине наука***

**DEMETRA
GODESS OF AGRICULTURE**



***FROM THE BIG BLUE OF
THE AEGEAN ISLANDS
TO THE BLEU DUNAV***

*Phytiatry (Plant Medicine):
A University science with educational priorities and professional
challenges in modern world agriculture*

Outline of the presentation

Clarifications of the terms Phytiatry/Plant Protection/ Plant health

Focus on Phytiatry

Does it exist as a discrete science ? NOT YET

Do we need it and WHY?

Mainly because of the vast difficulties in

1. PRECISE PEST AND DISEASE DIAGNOSIS

2. MANAGEMENT AND PATHOGEN AND PEST DISPERSAL

Undergraduate and Post graduate University Education

Current efforts and initiatives

Role of Universities and relative Scientific Societies around the globe

PHYTIATRY/PLANT MEDICINE

- *I will*
- *analyze a variety of concepts*
- *present arguments using also pictures which*
- *emphasize the fundamental particularity of all
Phytiatry sciences justifying educational and
professional changes in Agronomy for....*
- *Modernization of University Education*

-*Prove the requirement for upgrading the education and specialization on basic and applied disciplines of Phytiatry.....*

- *..and demonstrate the necessity of Phytiatry in European and world agriculture as a new profession of plant medicine doctors*

PHYTIATRY / PLANT MEDICINE

The presentation focuses on four key pillars

1. The conceptual content of Plant Medicine with special emphasis of differentiation compared to Plant Protection and Plant Health.
2. The scientific and educational content, within a broad sense and the autonomy of Plant Medicine
3. The modern profession necessity, with broad recognition of the apparent identity and
4. On the universality of the usefulness of science of Plant Medicine

PHYTIATRY

- *I will focus on concepts used broadly but occasionally erroneously to*
 1. *Clarify the confusion over the proper meaning of the scientific terms **Plant protection**, Plant health and **Phytiatry***
 2. *Designate discrepancies among them*

PHYTIATRY

*3. Demonstrate the significant role of **Plant Medicine Doctors** today and in the future and eventually*

*4. Bring out the need for establishing **Phytiatry** as new discrete University multidisciplinary science*

PHYTIATRY :

*an emerging concept covering sciences
far beyond those involved in Plant protection and Plant health*

- *What is the rationale?*

Why

Phytiatry and doctors in Plant Medicine

and NOT

Plant Protection and Plant protectionists

PLANT PROTECTION

Plant protection is a rather

- *artificial-technical concept, coined out as a term related to the control of plant pests and plant diseases*
- *Generally it deals with the use of chemical means, cultural practices or state regulations for pest control.*
- *Thus, plant protection refers mainly to applied Plant Medicine aspects*

PLANT HEALTH:

Plant health

refers mainly to national or international rules and legislations

- *Protecting safety of plant food*
- *Securing the health and quality status of crops*
- *Regulating the trade of plants and plant products*
- *Supervising the sale and use of plant protection products, or pesticides and*
- *Setting standards to monitor and control pesticide residues*

PHYTIATRY

On the contrary the term

- *Phytiatry is directly correlated with all aspects of basic and applied topics of various multidisciplinary plant medicine sciences*
- *The sciences that deal with basic and applied research and implementation of methods, techniques and tools for the diagnosis, prevention, therapy, dispersal or protection from plant diseases and pests and generally management of plant pests and diseases*
-

PHYTIATRY

- *Obviously ALSO includes all measures and regulations concerning Plant protection and Plant health necessary to manage pests and pathogens.*

Plant or Crop Protection,
Plant Health,
Phytiatry

- *Consequently the terms Plant Protection or Plant Health **are not similar** and broad enough to cover all aspects of Phytiatry*
- *Due to these striking differences **Phytiatry** is recommended to become a distinct University science for educational and professional purposes offering even bachelor's degrees since beyond others*
- *Phytiatry **is necessary** for an economically profitable and modern world agriculture,*
- *for food quality and safety and for the protection of the environment*

Let's be more specific
*Numerous scientific core disciplines could be
included in the sciences of **Phytiatry***

- Core disciplines of **Phytiatry**
- *I. The sciences of Plant Pathology*
- *II The sciences of Entomology and Agricultural Zoology*
- *III The Weed Science*
- *IV. The Sciences of Phytopharmacy*
- *V. Genetics for Plant breeding*

PHYTIATRY:

But more than 50 different scientific disciplines listed below could be involved in Phytiatry

- **Plant Physiology and Biochemistry**
- *Disease and Pest Monitoring*
- *Disease and pest Diagnosis, Plant Protection Strategies*
- *Phytopathological Mycology, Bacteriology, Virology, Epidemiology*
- *Agricultural Entomology, Agricultural Zoology Nematology, Weed Science*
- *Phytopharmacology*
- **Experimentation and Biometrics / Plant Breeding**
- **Select varieties for treating diseases and enemies / farming systems**
- **Basic knowledge of general and specific Pomology, Viticulture, Horticulture, Floriculture, General and Special Agriculture, Forestry**
- **Molecular Biology / Biotechnology**
- **Soil Science, Soil management / Fertilizers - Nutrition**
- **Multiplication of seed and plant breeding**
- **Identification of new diseases pests and weeds**
- **Harvesting process and impacts on Plant products**
- **Ecology and landscape architecture**
- **Ecotoxicology / Environmental Protection**
- **Communication and information, Socio-economic impact of applied plant medicine**
- **quality production**
- **Consumer protection**
- **Work safety**
- *Production Systems*
- *Stored-Product Protection, Harvest Processing,*
- *Molecular Biology, Breeding for diseases resistance etc.*

Plant Protection, Plant Health, Phytiatry

- *From the conceptual analysis and the scientific content of Plant Protection and Plant Health,*
- *it is demonstrated that their content constitutes just a small applied portion of the vast number of basic or applied scientific fields of Phytiatry since both cover a limited range of its aspects*

Plant protection is just an applied part of the multidisciplinary science of Phytiatry

- *Here I present the arguments for clarifying the occasionally misleading and inadequate term of Plant Protection as a term of general use*

Argument -1

International Plant Protection Congresses

The first IPPC was held in **Louvain, Belgium in 1946**

Congresses up to 1979 focused principally on new means of controlling insects with discussion relating to the chemical control of plant diseases

The Congress held in Washington, DC in 1979 was the first organized by a multidisciplinary group with emphasis on integrated pest management (IPM).

IPPCs have provided a forum for plant protection scientists to communicate and discuss important problems and new discoveries related to crop losses due to pests and their management.

Obviously this is just **Applied Phytiatry** (Plant Protection)

Argument -2

Scientific views for differences in the content of the terms

•

In Leuven, Belgium the Late
Prof. C. Van Assche in Agro-Ecosystems, 1974 .

- Analyzing the theoretical and applied concepts of chemical soil disinfestation used the term of **Plant protection** as part of the **Phytiatry**.
- Even today in the same University of Leuven a course entitled:
 - *Principles of Phytiatry* is taught

Argument -3

Scientific views for differences in the content of the terms

- **The late Prof. Dekker, J. of the University of Wageningen**
redefined the concept of plant protection
(International Symposium on Crop Protection, Gent
(Belgium), 1988

- **Introduced the terms**

Phytiatry and Phytopharmacy

instead of Plant protection to cover all aspects of
Phytiatry including research and application

Argument -4

AGROINOVA, using the *proper* Italian term refers
to Phytiatric congresses



International organizations

relevant to Plant Protection and Plant Health

- The scopes and the role of the operation of several relevant international organizations, demonstrate the restricted meaning of the terms **Plant Protection** and Plant Health compared to the broad term of **Phytiatry**

Several international organizations deal with Plant Health



- *But this is not **Phytiatry***
- *Obviously the relationship between the terms and the scientific contents of Phytiatry and Plant health*
- *is something similar to the relationship of the scientific contents of Human Medicine and Public health*



APHIS
Centre for Plant Health Science and
Technology

- *Plant Health Science and Plant Protection and Quarantine (PPQ).*
- *Provides scientifically valid regulatory and policy decisions.*
- *Provides practical guidance and tools for the identification, management and exclusion of pests and plant diseases.*

EFSA

European Food Safety Authority

- *PLH - Plant Health Panel*
- *deals with organisms posing a risk to plant health.*
- *These include plant pests which threaten crop production and species which threaten biodiversity.*

EPPPO

European and Mediterranean Plant Protection Organization

- *EPPPO European cooperation in plant health*
- *Protect plants, develop international strategies against the introduction and spread of dangerous pests and to promote safe and effective control methods*
- *Provide information related to standards and publications on plant pests, phytosanitary regulations, and plant protection products*

Plant protection and Plant Health are applied aspects of the Phytiatry

- *Consequently 'Plant Protection' is a rather narrow term, thus unable to cover the concepts of protection, recovery and therapy in plant disease and pest management for both educational and practical purposes.*
- *Indeed fundamental or applied research, which contributes to better understanding plant health problems and inventing means or methods of managing them, are not just plant protection.*
- *Furthermore, problems in studying nature, biology, ecology and obtaining correct identity of the causal agents, pests or plant pathogens, which create vast difficulties in the diagnosticians, must not be considered simply as plant protection.*

PHYTIATRY: EDUCATION

UNIVERSITY STUDIES

1. UNDERGRADUATE STUDIES

2. POSTGRADUATE STUDIES

*Masters in Europe or elsewhere
or PhD in USA or elsewhere*

UNDERGRADUATE STUDIES

Specific University studies in Phytiatry

- *Today there is a scientific gap in Phytiatric sciences mainly at the undergraduate level.*
- *There is no University in the world offering first University degree in Phytiatry, with very few exceptions such as..*
- *Bachelor in Plant Protection and Integrated Pest Management in California State University - Fresno and in Belgrade Serbia and Plovdiv Bulgaria*

POSTGRADUATE STUDIES

- *Masters in Europe or elsewhere*
- *or Ph.Ds. in USA or elsewhere*
- ***WRONG USE OF THE TERMS***

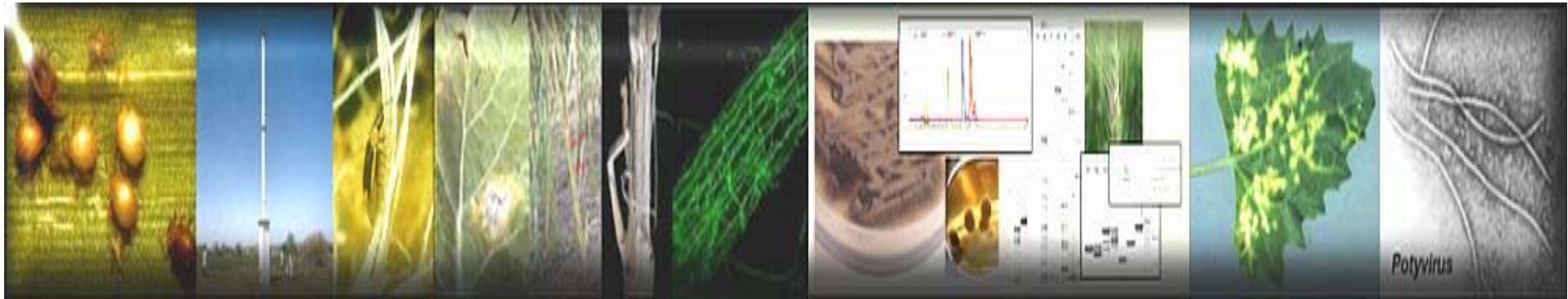
Master in Plant Protection and Plant Health are just part of the Phytiatry

- Several Universities around the globe offer master courses under the title of *Plant or Crop Protection* and in several cases students are dealing with molecular research aspects as part of the request of the degree but this is not Plant Protection only

A FEW EXAMPLES

GOETTINGEN

New Master program: CROP PROTECTION



Started: October 2010.

This master program is a job and research oriented,

interdisciplinary program. Graduate students **have the opportunity to learn about the basic and applied aspects** of research of a broad range of disciplines including plant pathology, nematology, entomology, virology, weed science, pesticide use, legislation and toxicology, **molecular phytopathology**, **mycotoxin** research, plant nutrition and plant breeding.

British Universities: Postgraduate Crop Protection courses

University Of Dundee 1 course

Harper Adams University College 3 courses

University Of Reading 6 courses

Imperial College London 2 courses

- **Postgraduate Crop Protection courses**
wrong name
- *Could we call
the post graduate courses in medicinal schools just
master's degree in public health?*

PHYTIATRY

- *Before referring to the existing Masters or PhD courses in *Phytiatry* around the world*
- *I am going to refer in detail to the negative consequences which are apparent today due to this specialized scientific gap*

Argument-1



Examples of plant diseases where the meaning of **Plant protection** is replaced by **Plant therapy** such as..

- *Deficiencies*
- *Phytophthora foot rot*
- *Downy and Powdery mildews*
- *Recovery of Verticillium wilt of olive*
- *Thermotherapy of plant material infected by viruses and viroids*
- *And many more.....*

Plant Health Alternatives, LLC

Alternative Health Care for Trees and All Plants



Stressed catalpa



Cured catalpa

Argument-2

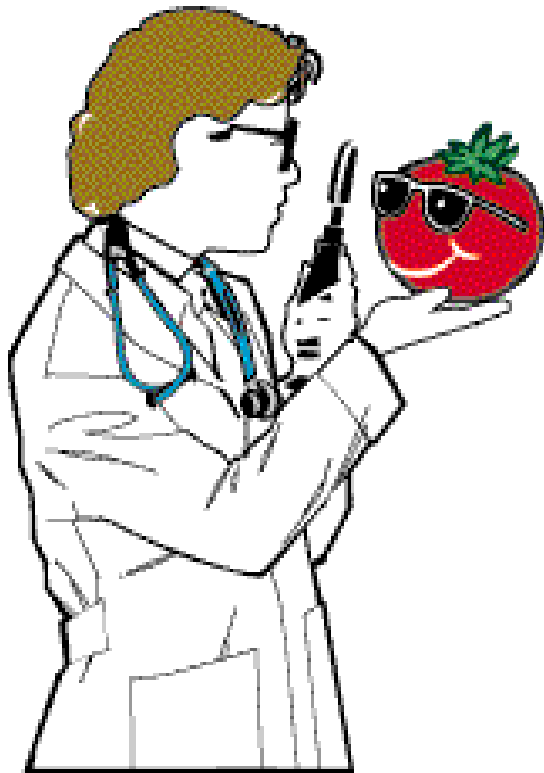
Similarities in symptom expression in plants due to different pests or pathogens

- *Symptom recognition in plant diseases or identity of pests, are fundamental tools in clinical or laboratory plant disease and pest diagnosis and management.*
- *However, Symptom recognition becomes even more difficult due to the vast number of non-parasitic diseases and plant stress problems causing indistinguishable symptoms.*
- *This is more complicated with the variability of cultivated plants and cropping systems around the globe.*

Argument-3

Numerous cases in every day agriculture need scientists with broad background and experience on *Applied Phytiatry*

- *Dutch elm disease / fungi and insect vectors*
- *Insects vectors of viruses, viroids and Phytoplasmas*
- *Infectious degeneration of the vine / Nematodes / Glyphosate*
- *Complex symptoms attributed to viruses, toxicities or deficiencies*
- *Bacterial diseases and insects*
- *Rhizomania (Virus) and Polymyxa betae (protozoa) etc.*



Phytiatry in application

Diagnosing Plant health Problems

We have to ask the Plant Doctors
What's wrong with these plants

- **But**
- **Are they, the so called plant doctors, scientifically reliable?**
- **Are they all eligible for the job?**
- **Are they available at the actual sites of plant production today?**

Diagnostician plant doctors today

- *Plant protection stations,*
- *University labs or*
- *extension plant pathologists or entomologists could offer basic diagnosis*
- *But today specialized professionals in **Plant Phytiatry** particularly in countries with diversified agriculture are missing thus creating problems in plant diseases and pest diagnosis and management*

*Specialized scientists in the **Phytiatry***

- *I do believe in the contribution of the **Specialized scientists in solving **phytiatric problems****.*
- *Those, who will be able to **visit** the fields, the orchards and the glass houses to **examine** the plant health problems, to **attend** symptom expression, to **diagnose** the causes and **identify** pests and weeds and **suggest** the necessary measures*
- *Those, who will communicate with the Research Institutes or Stations and **inform to whom it may concern***
- *Those, who will **transfer** the new research results through an **extension service***
- *Those, who will **detect** the new problems*

Empirical plant doctors.....in the 21st century ?

- *Several people consider that services in **applied phytiatry** could be still based on a general crop production knowledge, simply increased and specialized through the everyday practice.*
- *But this service is occasionally based on inadequate superficial knowledge, on empirical information or on unethical attitude of practitioners.*
- *Unfortunately leading to tragic diagnosis and proposals for management with negative financial and environmental impacts.*

PHYTIATRY

The significance of correct diagnosis

- *Examples of phytiatric problems arising from*
 - *1. Wrong diagnoses;*
 - 2. Failure to diagnose;*
 - 3. Unable to distinguish between the causes of similar symptoms;*
 - 4. Ignorance of the nature and biology of the pathogen;*
 - 5. Quarantine Pathogens and Pests*

Plant disease and pest Diagnosis and consequently Management

- *Difficulties related with the vast number of problems in Plant disease and Pest diagnosis*

Examples of Phytopathological problems arising from wrong disease diagnosis

- *Similar pests problems could be also given*

1. Wrong diagnoses

*An outrageous
classical example of
wrong diagnosis*

**Strong Winds
Causing
Stem wounds**



*Just one out of thousand cases of
wrong disease diagnosis...*

- *Simply proving the lack of specialized
scientists, who with professionalism will consult
farmers to confront plant health problems.*

Several other cases of wrong diagnosis-1

- 1. Kiwifruit plant (suspect **Phytophthora**) but in the lab it was diagnosed as **Meloidogyne sp infection**.*
- 2. Grapevine (suspect bunch dry rot).) but in the lab it was diagnosed as **lighting injury**.*
- 3. Apricot (suspect **incompatibility between scion and rootstock**) but in the lab it was diagnosed **Eutypa lata***
- 4. Apricot (suspect **Phytophthora**). but in the lab it was diagnosed **Eutypa lata**.*

Several other cases of wrong diagnosis-2

- 5. Apricot (suspect *incompatibility between scion and rootstock*) but in the lab it was diagnosed *Verticillium dahliae* infection.
- 6. Plums (suspect *plum pox*) but in the lab it was diagnosed damage by *Grapholita funebrana* ȳ *Cydia funebrana*.
- 7. Peach tree (suspect *incompatibility between scion and rootstock*) but in the lab it was diagnosed *Candidatus Phytoplasma pruni* causing disease known as X-Disease.

2. Failure to diagnose

*Simply because all cases are not
easy such as Botrytis cinerea, Taphrina deformans or*



Fusicladium , olive fly



Plasmopara viticola and *Monilia laxa* to be easily identified.....



Pepper

*Downy mildew or powdery mildew?
need different chemicals to be treated*



Melon field cultivation

Verticillium dahliae, *Fusarium oxysporum* f.sp. *niveum* or *Olpidium bornovanus*?

A specialized institute is needed, not always available



Insect damage... toxicity?
Experience is needed



Carrots

Psila rosae, Wireworms or *Pythium*



Boron deficiency, waterlogging or herbicide toxicity??



Strawberry

Rhizoctonia solani, Pythium sp. or Fusarium solani



What about this??
Chimeratoxicity ?



Sclerotinia Pythium, or Verticillium



Virus or chimera ?



Tangerines not speaking by themselves



Peaches

Unknown problems

possibly Thrips-1? Phytoplasma-2?



Nectarines

Low temperature damage, virus or viroid ?



Sour rot or Botrytis bunch rot
Grape berry moth (Eudemis) or Stem and bunch
breakdown (Ca Deficiency)



- *3. Unable to distinguish between the causes of the disease in cases of similar symptoms*

Potato
Verticillium dahliae,
Phytophthora infestans or
Dickeya solani.....?



Olive leaves toxicity?
Herbicides, insecticides, fertilizers?





Mandarins
Fusarium solani, waterlogging or
nematodes





ALMOND TREES

Phytophthora? Verticillium? Armillaria? Rosellinia?
Capnodis (syn. Bupestris)? Or water logging?



Grapevine cane

Herbicide injury or *Agrobacterium vitis*?



A Striking example

*I really doubt it if very few experienced diagnosticians could differentiate these very **similar symptoms** and diagnose each cause*

Diouron toxicity



Simazine and paraquat toxicity



Grapevine degeneration



Grapevine yellow fleck viroid



Magnesium deficiency



Grapevine variegation

Kalamata olives
Colletotrichum, Fusarium or soft nose



Olive mites or Leveillula



Potato: Necrotic spots due to differences in day and night temperatures or spray toxicity



Grapevine

low temperature damage during bud opening or virus diseases



Herbicide toxicity or a pathogen



Broccoli: Downy mildew or toxicity



Pomegranates

Fungicide or insecticide toxicity, high relative humidity



Apricot variety orange red
Fungal, bacterial, viral or ,



Cherry trees
Phytophthora, Verticillium, Armillaria,
Capnodis (syn. Bupestris), waterlogging or.....



.....rat damage?

The problem of diagnosis in the great majority of cases

- *Obviously most of these cases could be identified in well equipped Plant clinics or modern institutes with the help of experienced and specifically educated plant doctors.*
- *However, I am afraid that almost 90% of plant disease and pest diagnosis is carried out by inexperienced so called “diagnosticians” all over the world*

Prescription

- Recent EU directive asks for Specialized scientists who will meet the specific needs of prescription
- Obviously those who can diagnose the cause they will be able to prescribe responsibly.
- But they must understand that the prescription can not be done by empirical plant doctors.
- Because of the lack of a proven expertise, the superficial knowledge are very dangerous “advisers”
- Qualified specialized scientists aware of the pathogens and pests, will examine in detail the problem would study it thoroughly and propose the appropriate management with responsibility. Scientists are not yet available.

4. Ignorance of the nature and biology of the pathogen;

Origin of specialists in Phytiatry

- Applied Phytiatry specialists today originate mainly from those obtaining a University Bachelor's degree from Agronomy, Horticulture, Crop sciences, Biology, Botany, Life sciences etc.*

Due to the Ignorance of the source of the inoculum
How Verticillium wilt is becoming a real menace
Selected impressive cases

- *1. The Greek case*
- *2. The Spanish case*
- *3. The Bakersfield case in California*

Greece

Verticillium dahliae- Olive after cotton

Extensive symptoms in almost 80% of the olive trees



*Ignorance of the hosts range and the biology
of Verticillium dahliae*

Unbelievable catastrophe



Andalucía Spain -olives and cotton
Same problem with the defoliating race of V. dahliae



Bakersfield case in California



*olives after
safflower/cotton*

5. Quarantine Pathogens and Pests

- *Just to mention some reasons*
- *and few most recent alarming cases*

- *Governmental specialists are not always scientifically equipped to prevent entrance of pathogens or pests through.....*
- *Dispersal of phytoquarantine plant pathogens and pests*
-
- *Movement of Propagative plant material*

Examples of International threats

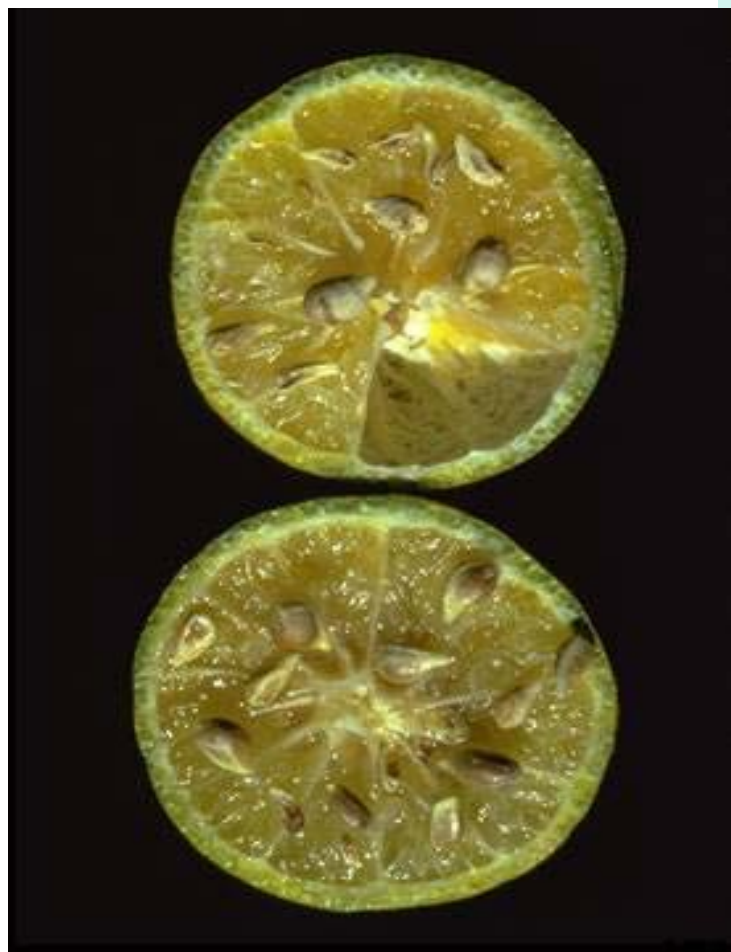
1. *Karnal (Partial) Bunt*
Tilletia indica



2. *Ug99 the emerging virulent stem rust race of*
Puccinia graminis f.sp. *tritici*



Citrus greening
Liberibacter asiaticus / *Asian citrus psyllid*



Candidatus Liberibacter sp –

- 2008
- *A new bacterial species 'Candidatus Liberibacter psyllauros' has been found in association with serious diseases of tomatoes, potatoes*
- In some potato and tomato production areas of North America ...



Pepino mosaic virus (PepMV)
infects mainly solanaceous plants



Plant Doctors and Specialization

- *Illegal importation (smuggling) of noncertified plant material can not be excluded*
- *Specialists in Phytiatry, to be able to cope with a problem even after the entrance otherwise diseases such as tristeza and many others already shown in the EPPPO lists might be spread in a country*

Valencia 20 years ago with the tragedy of tristeza

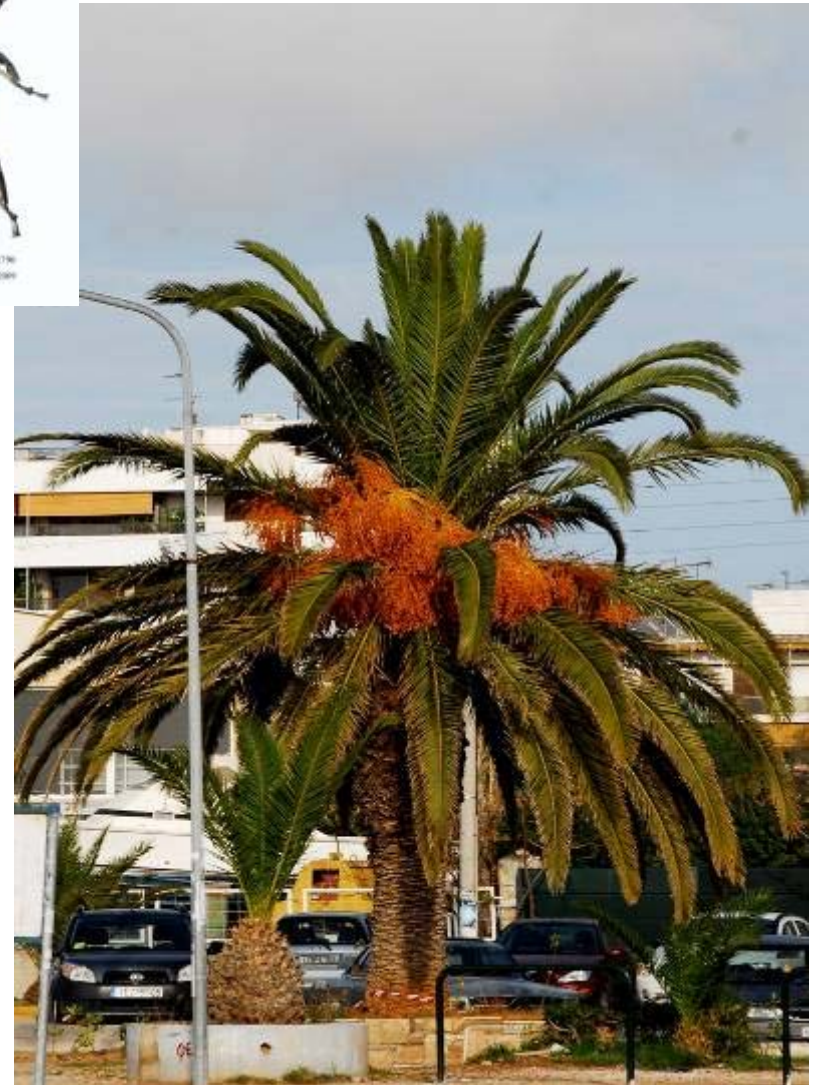
- **VALENCIA**



*Recently the disease appeared in Greece
through smuggling of plant material*



Rhynchophorus ferrugineus



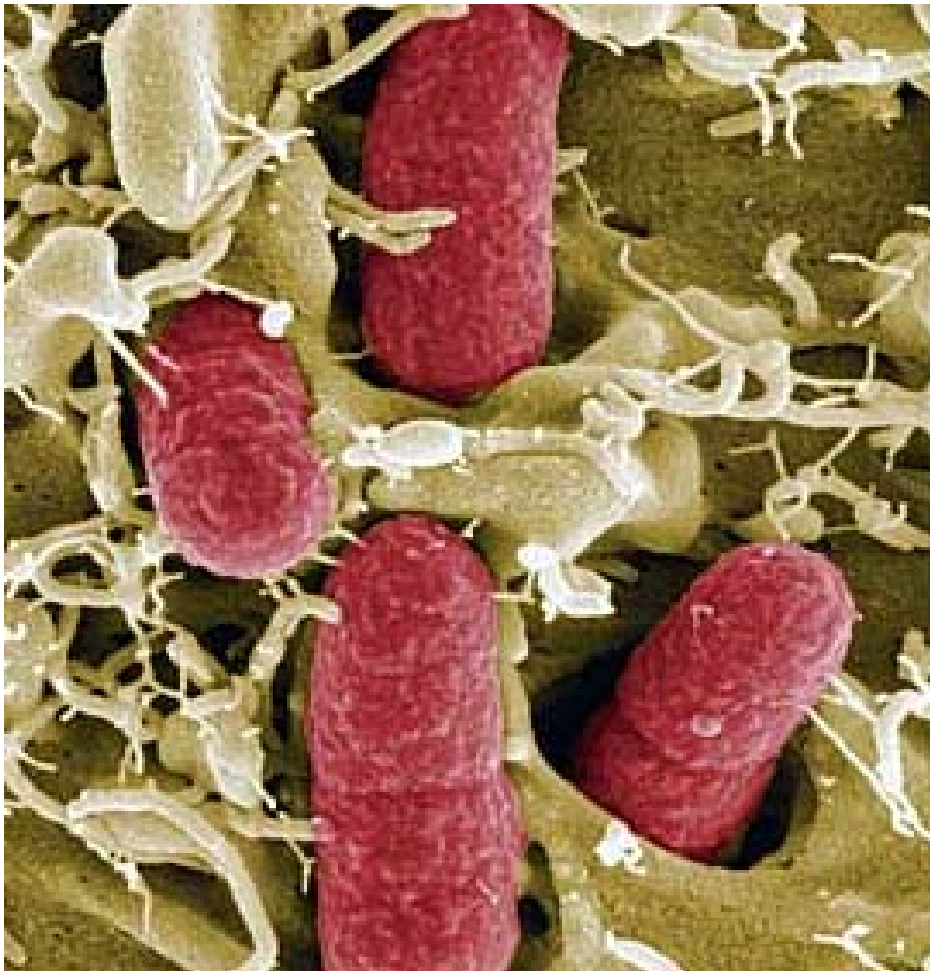
The current pest menace



or Tuta absoluta



Or deal efficiently with very difficult cases such as the German E. Coli Chaos Gets Worse, And Now Nobody Knows Where It's Coming From



POSTGRADUATE STUDIES

- ***Ph.Ds. in USA or elsewhere***
- ***Masters in Europe***

Post graduate studies in Phytiatry today

- *Plant medicine in post graduate level is a growing field that started in the University of Florida and has expanded in Nebraska and from USA to Japan, South Korea, Thailand and Egypt.*
- *These PhD degrees in Plant Medicine are an excellent initiative and significant departure towards the correct direction.*

Plant Medicine Program
University of Florida



- **Providing leadership in crop and plant health education since 1999**



Future Plant Doctors!

For additional information contact
Dr. Robert J. McGovern, 352-392-3631
rjm@ifas.ufl.edu or visit: <http://dpm.ifas.ufl.edu>



Doctorate in Plant Health
The University of Nebraska



- *The Professional Program in Plant Health has started in 2009.*
- *“It's comparable to the doctor of veterinary medicine program for animals and doctor of public health for humans, only it's for plants,” “*
- *The program is designed to train practitioners rather than researchers in entomology, agronomy, plant pathology and soil science.*

In Europe
*Masters' degree in **Phytiatry***

- **Corso di Laurea Specialistica in Medicina delle Piante**
(Facoltà di Agraria Università di Bari)



UNIVERSITÀ
DEGLI STUDI DI BARI
ALDO MORO

- *Although Phytiatry programs at a postgraduate level in the USA and Europe are a breakthrough, there are differences in the scientific backgrounds among those entering the programs*
- *I personally believe that the postgraduate studies should come as a step next to undergraduate studies in Phytiatry*
- *Till then Doctors in Phytiatry will be a fine but transitional solution*

Common Master 's in Phytiastry in EU countries

- *The University of Bari the Agricultural University of Athens and Plovdiv University of Bulgaria have created a TEMPUS INTERNATIONAL JOINT MASTER DEGREE IN PLANT MEDICINE in cooperation with the Universities of Tirana and Korce Albania, Novi Sad and Belgrade in Serbia, Osijek and Zagreb in Croatia, Tetovo and Skopia in FYROM and Pristina in Kosovo*

*TEMPUS PROJECT IN MASTER OF SCIENCE
IN PLANT MEDICINE*

International joint Master degree in
Plant **M**edicine (acronym: **IPM**)

158875-TEMPUS-IT-JPCR
Joint Project – Curricular Reform

EAC/01/2009

- **Tempus (European Union's Program):**

- supports the modernization of higher education in the Partner Countries of Eastern Europe, Central Asia, the Western Balkans and the Mediterranean region, mainly through university cooperation projects;

Terms relative to **Phytiatry used by relevant international scientific societies**

- Regardless of the existence of hundreds of **international scientific societies** devoted to the plant health sciences, currently new societies use the term Phytiatry or Plant Medicine such as in Switzerland and Germany.
- The Swiss Society for **Phytiatry**
- The German **Phytomedical** Society (DPG)

Swiss Society for

● Phytiatry (SSP)

Schweizerische Gesellschaft für Phytomedizin
Società svizzera di fitoiatria
Swiss society for phytiatry



The German Phytomedical Society (DPG)



- *The German Phytomedical Society (DPG) is the largest scientific association in plant production in Germany*
- *The Society is membership-based 1200 members, are professionals within the entire field of phytomedicine*
Science for Practice
- *Phytomedicine is the science of plant disorders (whether biotic or abiotic), their diagnosis, management and control.*



Hellenic Society of Phytiatry

- **The Hellenic Society of Phytiatry** was established in Greece in 2009
- As current President of the Hellenic Society of Phytiatry, I send a letter to the Editor of Phytopathology News published by APS,
- With many enthusiastic and positive comments from scientists all around the globe

TJAMOS Phytopathology News

May 2010



- Letter to the Editor
- Establishing Phytiatry as a New Science in Universities
- It is evident that the vast science of agriculture desperately needs the establishment of a separate field of plant health sciences called “**plant medicine,**” known as *Phytiatry* in Greek and analogous to “veterinary science.” Indeed, the apparent lack of inspiration and interest of candidate students to study plant pathology, due to the uncertainty in obtaining future jobs (only research centers and university departments offer limited job opportunities) and the lack of attractiveness of our important discipline, necessitate a revolution in educating students in various plant health disciplines. Thus, I strongly support the idea of educating scientists in the field of plant medicine since several scattered sciences dealing with plant health will come closer and create undergraduate programs for plant doctors of preferably a four- to five-year duration. This will also fill the enormous gap of missing specialists in the private sector.

Concluding remarks

- My proposal originated from the fact that , modern Agriculture in Mediterranean basin and world wide necessitates a revolution in educating students in various plant medicine disciplines at an **undergraduate level**.
- Establishing **Phytiatry** as a University science will open a broad spectrum of carriers for a **new profession of plant doctors**.

Concluding remarks

- *So to summarize I suggest:*
- *1. The replacement of the term **Plant Protection** with the term of **Applied Phytiatry**.*
- *2. The establishment of the term **Phytiatry** as the overall science*
- *3. **Redefining the content** of Agricultural Education to involve **Phytiatry sciences** at undergraduate and postgraduate levels as crucial steps for research and application of these sciences in agriculture and economy all around the globe.*
- *3.1 **Discrete**, rational, performance-based and integrated structured training in **Phytiatry**.*
- *3.2 **Recognized by the State and based on scientific choices** that will clearly highlight the specific role of **plant doctors**.*

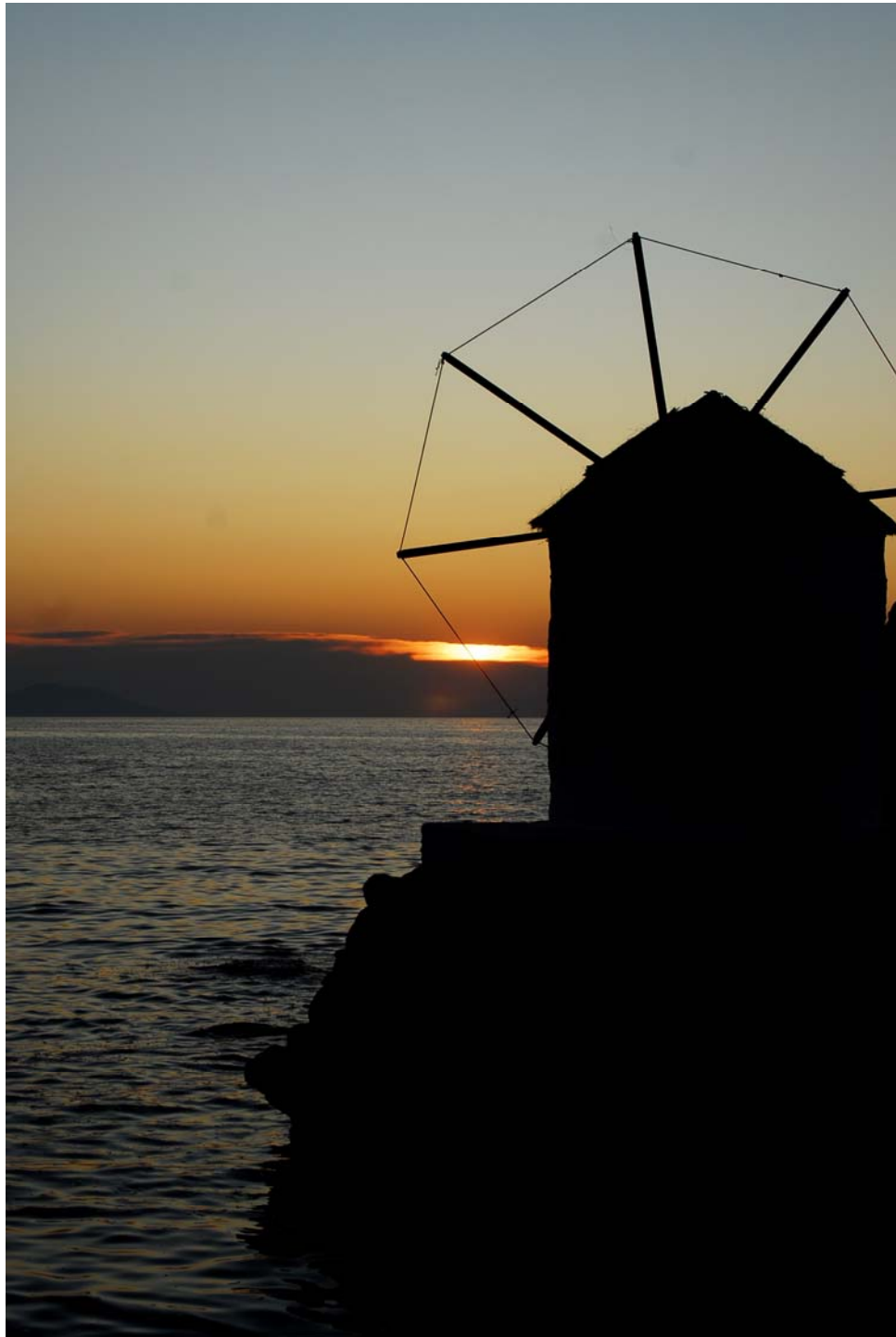
Concluding remarks

- *The establishment of this distinct and independent science, in parallel with agricultural sciences*
- *would establish a new very attractive science*
- *and would gradually create the basis for obtaining general or specialized plant doctors*
- *Plant Doctors able to offer specific qualitative and secured service either in the private sector to the state or in the university, in research centres, in world agriculture.*

Time for common Action

- *I believe that the University communities, ISPP, APS, and societies of other related disciplines have to exercise their pioneered role and go ahead with such an initiative to formalize and establish **Phytiatry** as a new University science for the benefit of world agriculture, the environment and the humanity*

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Даме и господо,
хвала вам пуно

