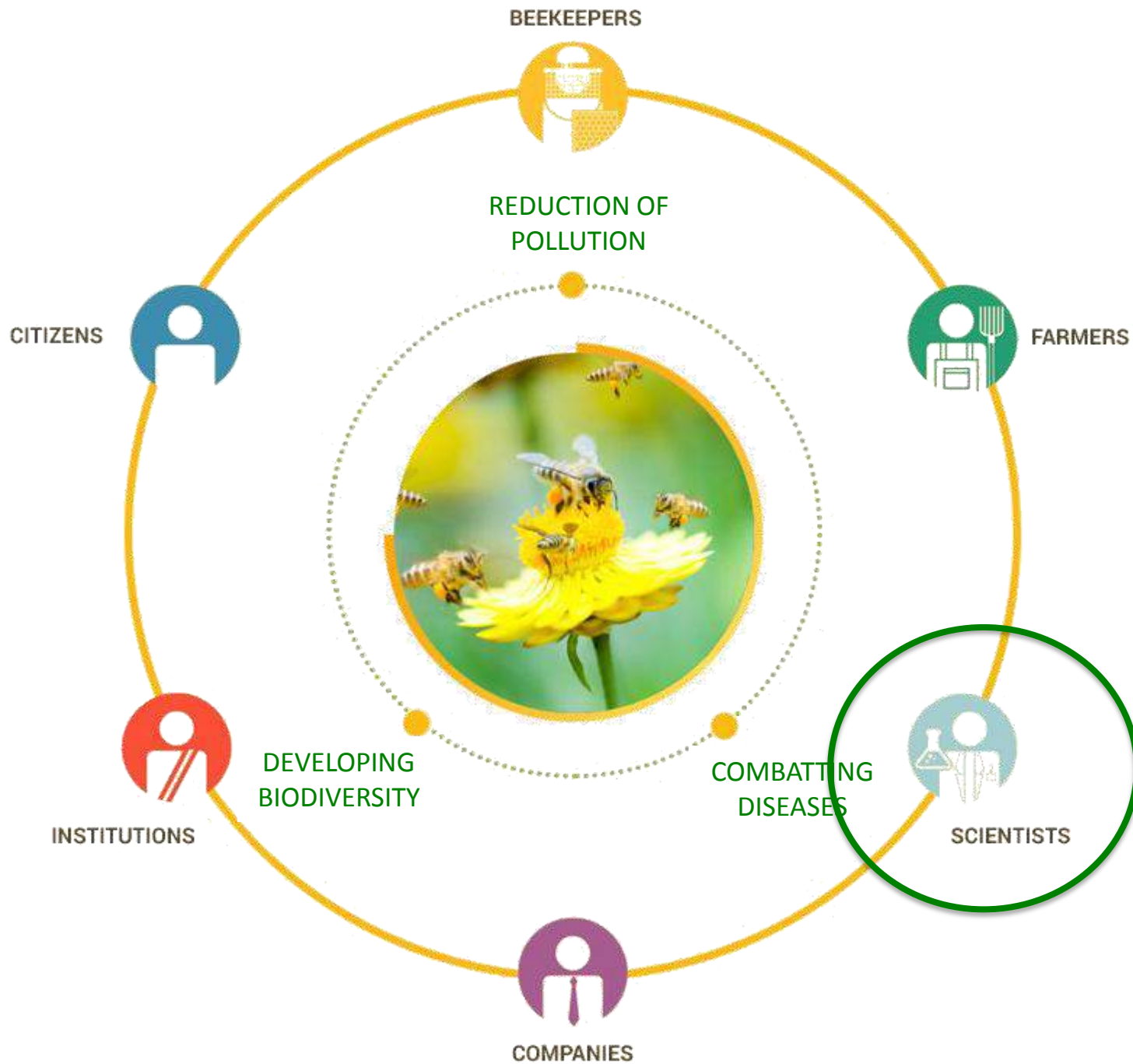


Scientific research and economic aspects

Panel 3 – Economic cooperations
for sustainable honey production and
biodiversity

Dr Bach Kim Nguyen
Université de Liège – Gembloux Agro-Bio Tech
BeeOdiversity







COMPETITION

THE WORLD UNIVERSITY RANKINGS



Managed honey bee colony losses in Canada, China, Europe, Israel and Turkey, for the winters of 2008-9 and 2009-10

Romée van der Zee¹, Lennart Charrière², Róbert Grau³

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Effects of honey bee virus prevalence, Varroa destructor load and queen condition on honey bee colony survival over the winter in Belgium

Bach Kim Nguyen¹, Magali Ribière¹, Dennis van Engelsdorp^{1,2}, Chantal Senechal¹, Claude Saegerman¹, Abby Lynn Kalkstein¹, Franck Solignac¹, Yves Brostaux¹, Jean-Paul Fauxst¹ and Eric Haubruge¹

¹University of Liege, Gembloux Agro-Bio Tech, Department of Functional and Evolutionary Entomology, Passage des Déportés 2, B-5030 Gembloux, Belgium; ²AFISA (Fédération Asso. Ind. Agric. 1902), 69922 Soignies Avenue, France; ³Researching Department of Agriculture, 2301 North Cameron Street, Harrisburg PA 17110, USA; ⁴Department of Entomology and Parasitology, 501 ASI Building, University Park, PA 16802, USA; ⁵Department of Entomology and Parasitology, 501 ASI Building, University Park, PA 16802, USA; ⁶Department of Entomology and Parasitology, 501 ASI Building, University Park, PA 16802, USA; ⁷Department of Applied Statistics, Computer Science and Mathematics, Passage des Déportés 2, B-5030 Gembloux, Belgium.

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Summary

Since 1998, European beekeepers have reported increased mortality in overwintering honey bees. An epidemic of Colony Collapse Disorder (CCD) has been identified in the United States of America. This is increasing awareness that the global spread of Varroa destructor has resulted in a significant change in the prevalence, distribution and/or virulence of overwintering viruses in honey bee colonies. In the autumn of 2008, 2009 and 2010, 1000 colonies of adult bees were sampled from 36 apiaries. Adult bee samples were analysed by using RT-PCR for viral distribution. Varroa infestation levels were also determined. A follow up visit of colonies in the spring permitted us to assess colony survivorship. We found that the prevalence of CCD was significantly higher in colonies with high Varroa infestation levels. In addition, we found that the prevalence of CCD was significantly higher in colonies with high Varroa infestation levels. In addition, we found that the prevalence of CCD was significantly higher in colonies with high Varroa infestation levels.

Prevalencia virus en la abeja de la miel, la carga de Varroa destructor y la supervivencia de las colonias durante el invierno

Colony Collapse Disorder: A Descriptive Study

Dennis van Engelsdorp^{1,2}, Jay D. Evans³, Claude Saegerman³, Chris Mullin⁴, Eric Haubruge⁵, Bach Kim Nguyen¹, Maryann Frazier⁶, Jim Frazier⁶, Diana Cox-Foster⁷, Yanping Chen⁸, Robyn Underwood⁹, and R. Tarpay¹⁰, Jeffery S. Pettis¹¹

¹Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ²Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ³Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ⁴Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ⁵Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ⁶Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ⁷Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ⁸Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ⁹Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ¹⁰Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ¹¹Department of Entomology and Parasitology, University of Pennsylvania, United States of America.

Abstract Over the last two winters, there have been large-scale, unexplained losses of managed honey bee (*Apis mellifera*) colonies in the United States. In the absence of a known cause, this syndrome was named Colony Collapse Disorder (CCD). The main trait was a rapid loss of adult worker bees. We initiated a descriptive epidemiological study of CCD because the main trait was a rapid loss of adult worker bees. We initiated a descriptive epidemiological study of CCD because the main trait was a rapid loss of adult worker bees. We initiated a descriptive epidemiological study of CCD because the main trait was a rapid loss of adult worker bees.

REVIEW ARTICLE

Standard epidemiological methods to understand and improve *Apis mellifera* health

Dennis van Engelsdorp¹, Franck Solignac¹, Magali Ribière¹, Chantal Senechal¹, Claude Saegerman¹, Abby Lynn Kalkstein¹, Yves Brostaux¹, Jean-Paul Fauxst¹ and Eric Haubruge¹

¹Department of Entomology, 3 Department of Public Health and Parasitology, University of Liege, Gembloux Agro-Bio Tech, Department of Functional and Evolutionary Entomology, Passage des Déportés 2, B-5030 Gembloux, Belgium; ²Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ³Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ⁴Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ⁵Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ⁶Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ⁷Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ⁸Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ⁹Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ¹⁰Department of Entomology and Parasitology, University of Pennsylvania, United States of America; ¹¹Department of Entomology and Parasitology, University of Pennsylvania, United States of America.

NOTES AND COMMENTS

Honey bee colony losses in Belgium during the 2008-9 winter

Bach Kim Nguyen¹, Jacques Mignon¹, Dries Laget², Dirk C de Graaf³, Frans J Jacobs⁴, Dennis van Engelsdorp^{1,5}, Yves Brostaux¹, Claude Saegerman¹ and Eric Haubruge¹

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Abstract We report on the development and validation of a multi-residue method for pesticide determination in honey using on-column liquid-liquid extraction and liquid chromatography-tandem mass spectrometry. The method was developed and validated for the determination of 17 widely used pesticides in honey. The method was developed and validated for the determination of 17 widely used pesticides in honey. The method was developed and validated for the determination of 17 widely used pesticides in honey.



Development and validation of a multi-residue method for pesticide determination in honey using on-column liquid-liquid extraction and liquid chromatography-tandem mass spectrometry

C. Pirard¹, J. Wildart¹, B.K. Nguyen², C. Deleuze², L. Heudt², E. Haubruge², E. De Pauw², J.-F. Focant²

¹Mass Spectrometry Laboratory, C.A.R.T., University of Liege, sabbat 7, 6600 Sart Tilman, Belgium; ²Functional and Evolutionary Entomology, Gembloux Agro-Bio Tech, Passage des Déportés 2, B-5030 Gembloux, Belgium

Abstract

We report on the development and validation of a multi-residue method to identify and quantify 17 widely used pesticides in honey. The method was developed and validated for the determination of 17 widely used pesticides in honey. The method was developed and validated for the determination of 17 widely used pesticides in honey.

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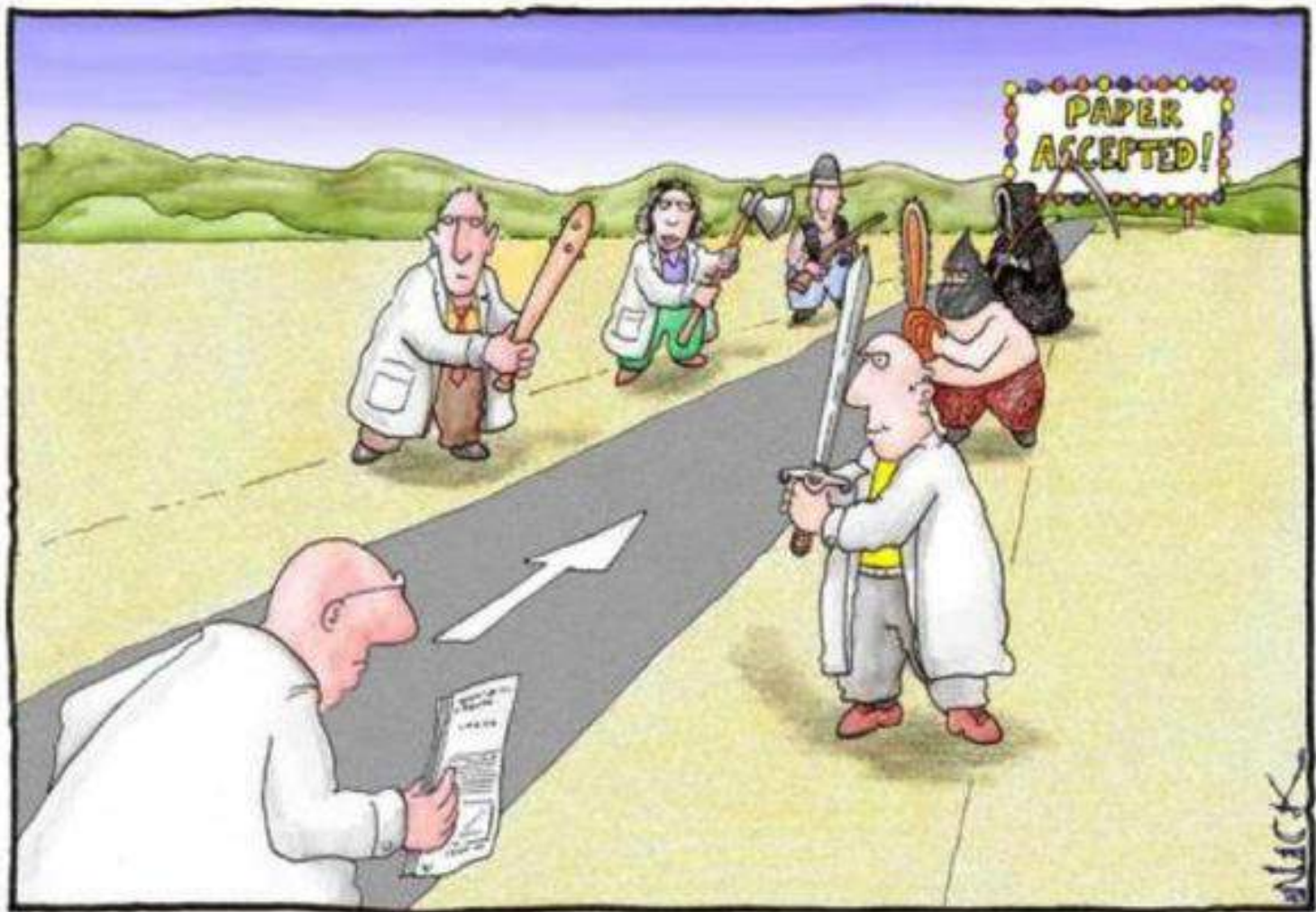
Colony Collapse Disorder: A Descriptive Study

M Allippi¹, Karina Antúnez², Katherine A Aronstein³, Giles Budge⁴, Douglas W Dingman⁵, Jay D Evans⁶, Leonard J Foster⁷, Anne Fünfknauer⁸, Gregor⁹, Hannelle Human¹⁰, K Daniel Murray¹¹, Bach Kim Nguyen¹², Selwyn Wilkins¹³ and Elke Genersch¹⁴

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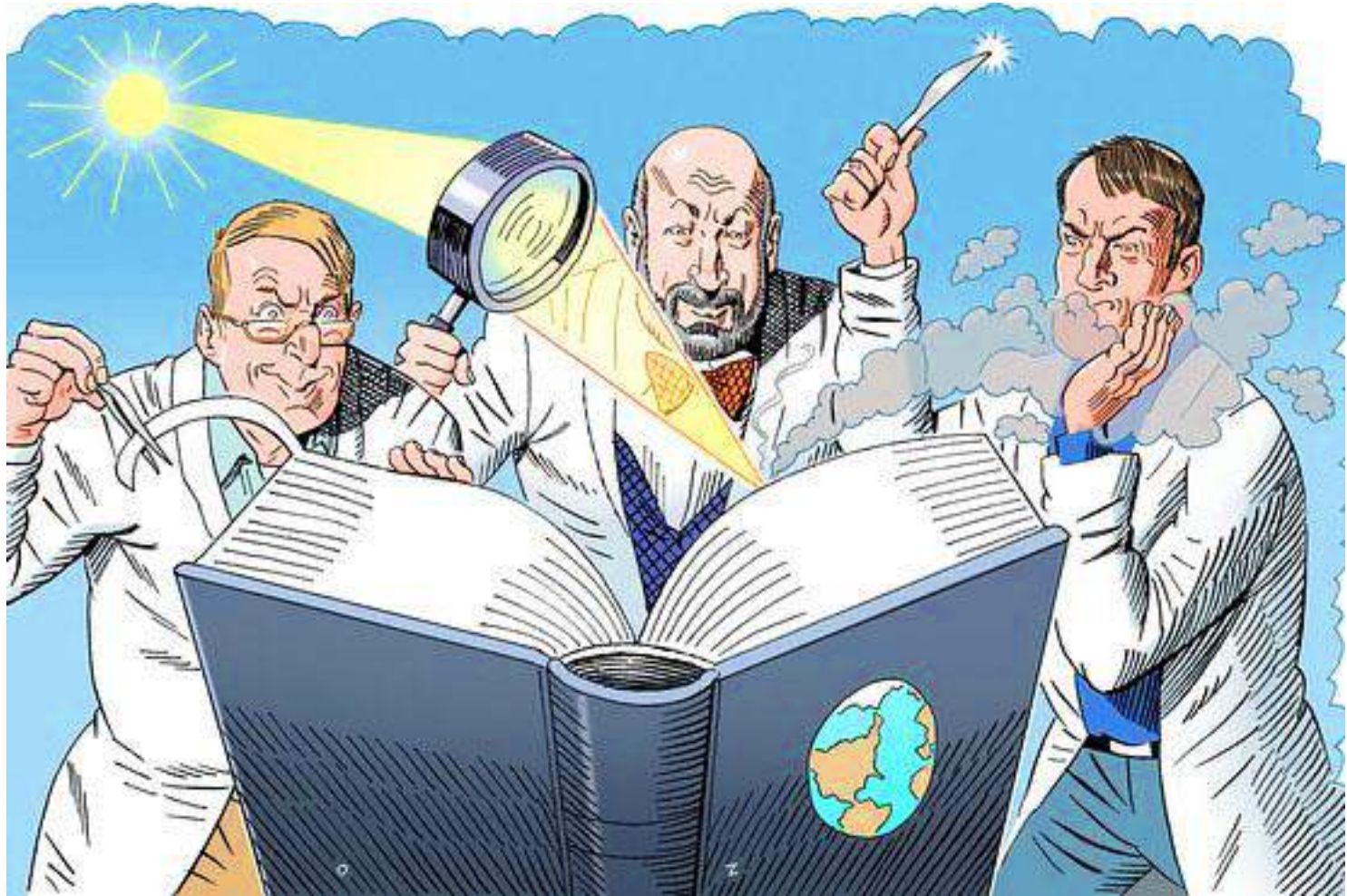
Received 18 June 2012, accepted for publication 5 November 2012.

Corresponding author: Email: bak.nguyen@ulg.ac.be

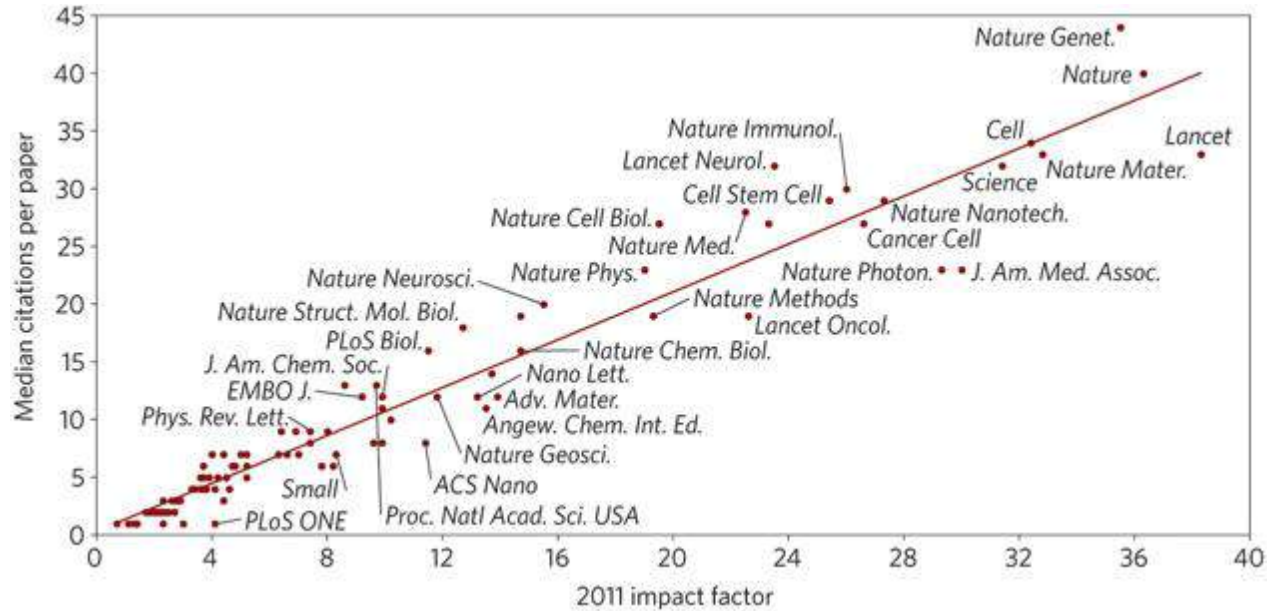


Most scientists regarded the new streamlined peer-review process as "quite an improvement."

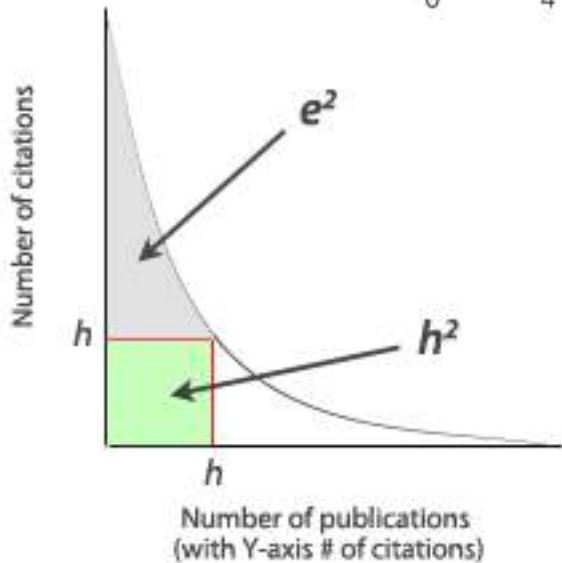
PEER REVIEW



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HEALTHY COMPETITION

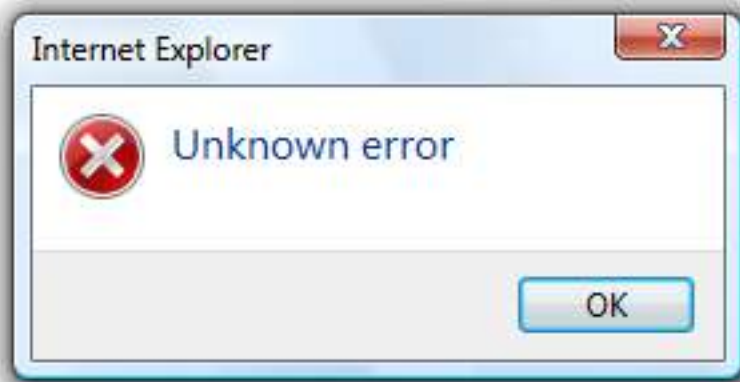






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RESEARCH



DIVISION



DISEASES



POLLUTION



BIODIVERSITY





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PRIORITIES ??



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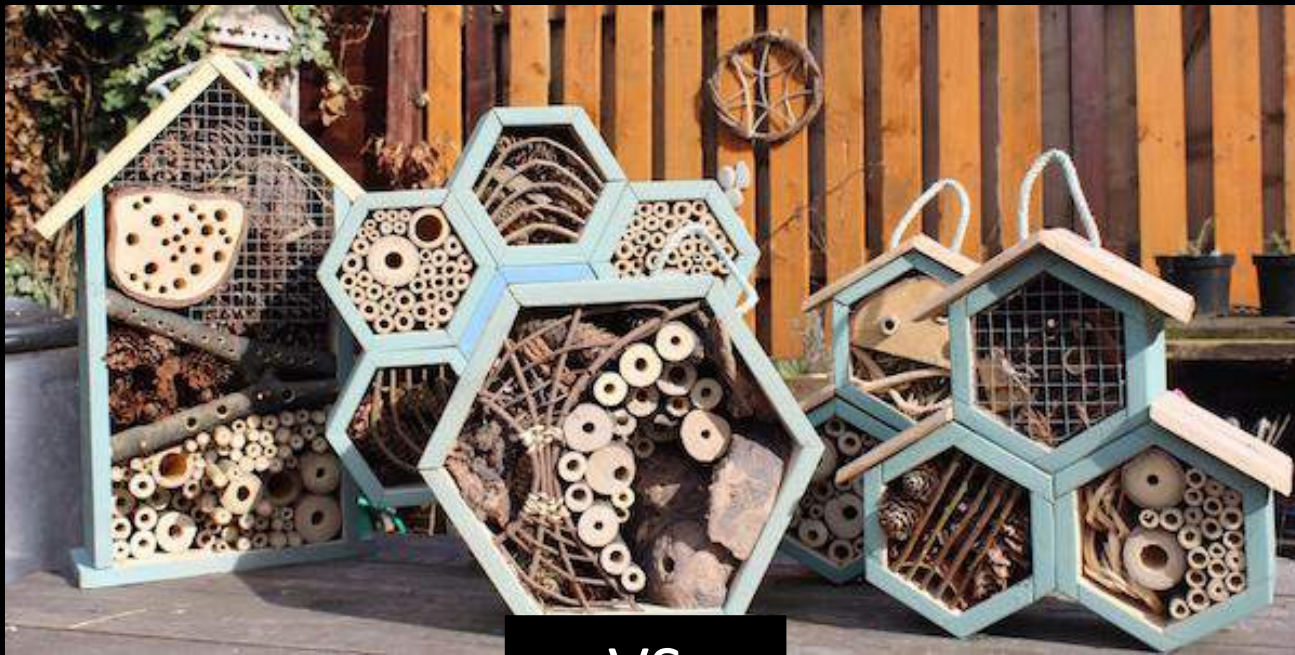


DISEASES



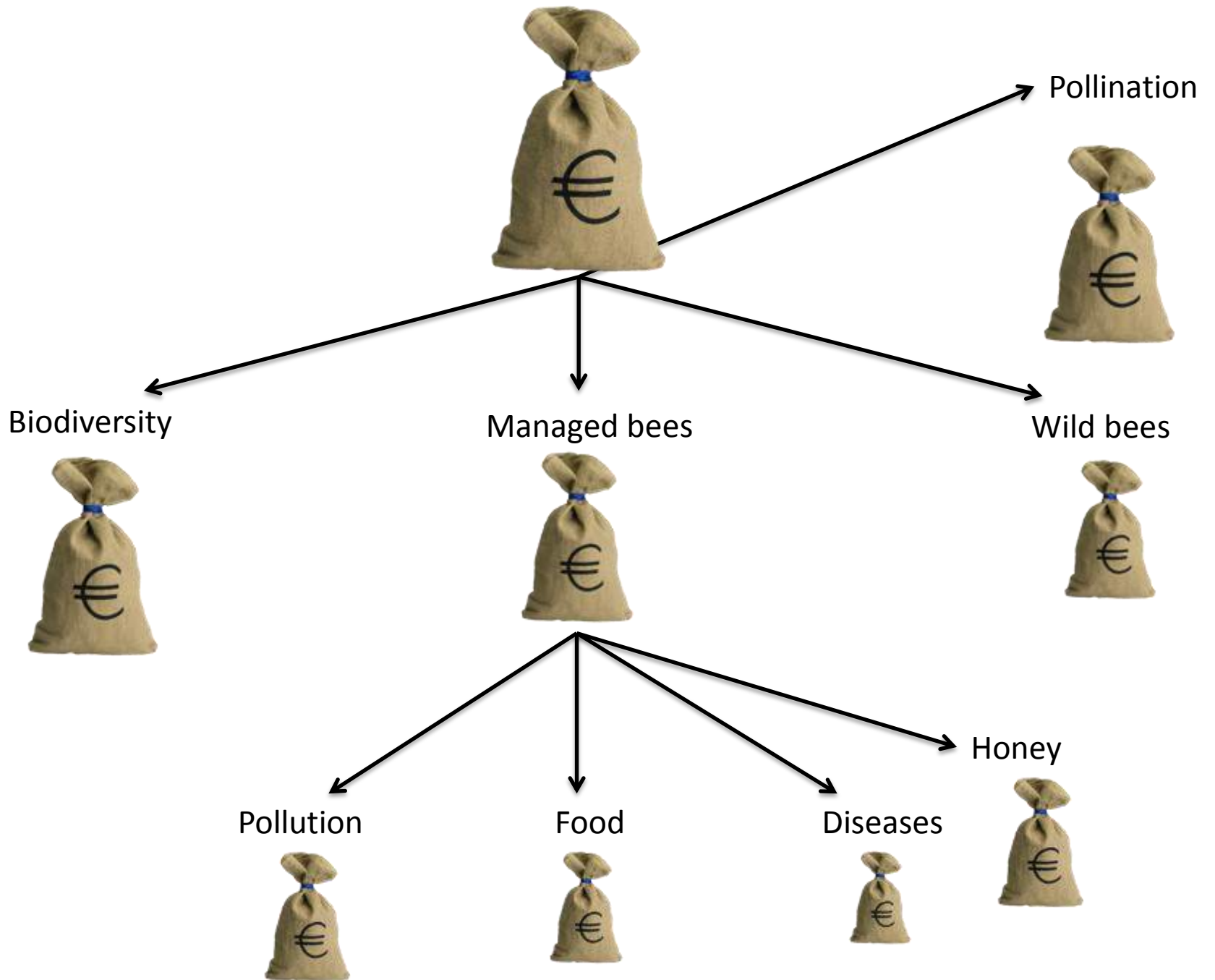
POLLUTION

BIODIVERSITY



VS





STRATEGY

Managed bees

Biodiversity

Pollination

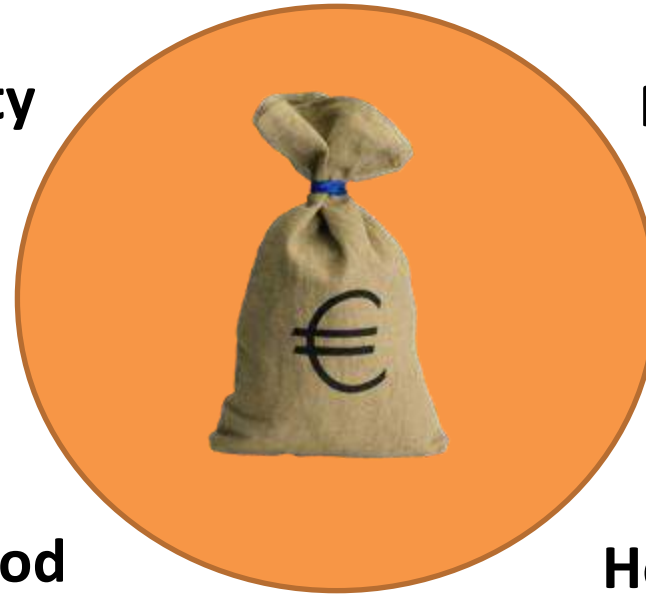
Pollution

Wild bees

Food

Honey

Diseases



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Together
Everyone
Achieves
More







Thank you very much

