



Universiteit
Leiden
The Netherlands

Genetically modified (GM) corn in the Philippines : Ecological impacts on agroecosystems, effects on the economic status and farmers' experiences

Mabutol-Afidchao, M.B.

Citation

Mabutol-Afidchao, M. B. (2013, November 20). *Genetically modified (GM) corn in the Philippines : Ecological impacts on agroecosystems, effects on the economic status and farmers' experiences*. Retrieved from <https://hdl.handle.net/1887/22273>

Version: Corrected Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/22273>

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/22273> holds various files of this Leiden University dissertation

Author: Mabutol-Afidchao, Miladis B.

Title: Genetically modified (GM) corn in the Philippines : ecological impacts on agroecosystems, effects on the economic status and farmers' experiences

Issue Date: 2013-11-20

Genetically Modified (GM) Corn in the Philippines

*Ecological impacts on agroecosystems,
effects on the economic status and farmers' experiences*

by Miladis B. Mabutol-Afidchao

Genetically Modified (GM) Corn in the Philippines

*Ecological impacts on agroecosystems,
effects on the economic status and farmers' experiences*

PROEFSCHRIFT

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van Rector Magnificus prof.mr. C.J.J.M. Stolker,
volgens besluit van het College voor Promoties
te verdedigen op woensdag 20 november 2013
klokke 11.15 uur

door

Miladis B. Mabutol-Afidchao

Geboren te Santiago City, Isabela, Philippines
in 1975

© 2013 Mabutol-Afidchao, Miladis B.

Genetically Modified (GM) Corn in the Philippines
*Ecological impacts on agroecosystems,
effects on the economic status
and farmers' experiences*

ISBN: 978-94-6203-469-3

Thesis Leiden University

Cover design René Glas
Lay-out by René Glas (www.reneglas.com)
Printed by Wöhrmann Print Service, Zutphen, The Netherlands

P r o m o t i e c o m m i s s i e

Promotor	Prof. dr. G. R. de Snoo (Universiteit Leiden)
Co-promotor	Dr. C.J.M. Musters (Universiteit Leiden)
Overige leden	- Prof. Dr. E. van der Meijden - Prof. dr. Ir. P. C. Struik (Wageningen University) - Prof.dr. J.C. Biesmeijer (Universiteit van Amsterdam) - Prof.dr. G.A. Persoon (Universiteit Leiden)

This project was funded by Louwes scholarship programme- Research for Water and Food jointly administered by the Cagayan Valley Programme for Environment and Development (CVPED), Isabela State University, Cagayan, Isabela, Philippines and Institute for Environmental Sciences-Conservation Biology Department (CML- CBD), Leiden University, The Netherlands

C o n t e n t s

Chapter	title	page
1	General Introduction	7
2	Asian Corn Borer (ACB) and non-ACB pests in GM corn (<i>Zea mays</i> L.) in the Philippines <i>M.M. Afidchao, C.J.M. Musters and G.R. de Snoo</i>	23
3	Field assessment of the impact of genetically modified (GM) corn cultivation and its associated agricultural practices on in-field invertebrate populations in the Philippines <i>M.M. Afidchao, C.J.M. Musters, M.D. Masipiqueña and G.R. de Snoo</i>	45
4	Invertebrate abundance and species richness in transgenic and non-transgenic cornfields in the Philippines <i>M.M. Afidchao, C.J.M. Musters, M.D. Masipiqueña, D.J. Snelder and G.R. de Snoo</i>	71
5	Analyzing the farm level economic impact of GM corn in the Philippines <i>M.M. Afidchao, C.J.M. Musters, A. Wossink, O.F. Balderama and G.R. de Snoo</i>	95
6	GM corn adoption and farmers’ experiences in Isabela, Philippines <i>M.M. Afidchao, C.J.M. Musters, O.F. Balderama and G.R. de Snoo</i>	121
7	Conclusions, Recommendations and Future Research	145
	Summary	155
	Nederlandse samenvatting	161
	Curriculum Vitae	167