

The euorpean gypsy moth

[Science](#), [Biology](#)



Invasive exotic species position paper-Gypsy Moth The European Gypsy moth (*Lymantria dispar*), is an exotic species and is one of North America's most problematic pests. It had been intentionally introduced in the year 1800's in Massachusetts (Pimental et al, 2005). This tiny pest affects the environment adversely. Therefore, it has become very important to strategize management and controlling mechanisms to inhibit further damage. The recent development in genetic manipulation where it is possible to control the genes of bacteria and use them for benefits may be used in controlling the moth population by using Bt.

Firstly, being voracious eaters they feed extensively on the leaves of trees such as firs and spruce thereby completely destroying the foliage. Such repeated instances of foliage destruction may lead to death of the trees. Secondly, these moths also affect the water quality as well. The moths feed on tree leaves and their droppings fall into the streams and water bodies thereby increasing the organic matter in the water thereby leading to algal blooms. It is not only the environment that is affected but the moth also causes economic losses as well. Timber is lost as the moth destroys woodland as well as ornamental trees and thereby causes monetary loss. Another monetary loss is the financial costs incurred while trying to cope up with the moth infestation (Moellar, 1977).

However, after the advancement in the field of biotechnology, *B. thuringiensis* is deemed as the best management for gypsy moth. The bacterium produces a Bt toxin which on entering the moth's body destroys the gut of the moth and thereby keeps them under control. The pros of using Bt against gypsy is that it works well in controlling the moth population and

is cost effective. However, since Bt is non-specific it may harm other non-target organisms as well. Moreover, health impacts have been seen among ground workers (Wronski, 1997).

Being effective with low environmental impacts, I personally believe that using Bt is the best management method against Gypsy moths.

REFERENCES

" <http://worldcat.org/oclc/774038619:##>: The Use of Bacillus Thuringiensis Kurstaki for Managing Gypsy Moth Populations Under the Slow the Spread Program, 1996-2010, Relative to the Distributional Range of Threatened and Endangered Species. Newton Square, PA: U. S. Dept. of Agriculture, Forest Service, Northern Research Station, 2011. Internet resource. :##: Blackburn, Laura." N. p., Web. 10 Mar. 2014.

Moeller, George H. Economic Analysis of the Gypsy Moth Problem in the Northeast: 3. Upper Darby, Pa: Forest Service, U. S. Dept. of Agriculture, Northeastern Forest Experiment Station, 1977. Web.

Pimentel, David, Rodolfo Zuniga, and Doug Morrison. " Update on the environmental and economic costs associated with alien-invasive species in the United States." (2005): Print.