



Corporate Headquarters

March 3, 2020

295 South Water Street, #300

Kent, Ohio 44240-5193

330.673.5685

Toll Free 1-800-828-8312

Fax 330.673.0860

Regional Office

Lee Mueller

Grand Rapids, Michigan

248 221 0439

Doug La Fave
Assistant City Manager
750 Lakeside Drive Southeast
East Grand Rapids, Michigan 49506

RE: Gypsy Moth—City of East Grand Rapids, Michigan

Dear Mr. La Fave:

Over the last several years, West Michigan has experienced an increase in gypsy moth population. Severe defoliation in 2017 and 2018 along Coronado SE, led to a decision to treat gypsy moth within this area in 2019. Natural disease pressure and aerial treatment of BtK led to a significant reduction in gypsy moth population in 2019. Based on recently performed winter egg mass surveys, the population is expected to remain low and treatment is not recommended in 2020.

Gypsy moth is an invasive pest that first swept through Michigan several decades ago. In the initial sweep, high gypsy moth populations caused severe defoliation of trees and in some cases tree death. In the recent past, populations have remained relatively low due to predator and disease pressures on gypsy moth caterpillars.

While many factors go into insect population dynamics, the recent population increase appears to be the result of relatively dry spring weather in 2016 through 2018. This dry weather may have reduced the effectiveness of natural disease pressure in gypsy moth caterpillar populations. Generally, gypsy moth populations may remain high for 1 to 3 years, before natural diseases cause the population to crash to reduced levels. In 2019, the wet, cool spring appears to have led to increased disease pressure and a natural crash in gypsy moth populations.

Integrated Pest Management (IPM) is a broad approach to manage pests below a certain threshold, rather than pre-emptive or on-going treatment regardless of pest population, impacts, or damage. In discussions with East Grand Rapids, we have continued to use an IPM approach to the management of gypsy moth rooted primarily on expected impacts to tree health.

Doug La Fave
City of East Grand Rapids
March 8, 2019

To monitor gypsy moth populations, visual surveys were performed in areas with known or reported concentrations of gypsy moth activity in the summer of 2017, 2018, and 2019. Visual surveys are intended to observe gypsy moth feeding pressure on trees. While healthy trees can withstand even complete defoliation in a given year, trees may not tolerate multiple years of subsequent defoliation. Severe defoliation was noted in a pocket of infestation on Coronado SE in 2017 and 2018. Defoliation appeared to subside in 2019. A concentration of severe defoliation of trees is the first trigger to consider recommendations to treat gypsy moth with pesticide.

Within those areas that received severe defoliation, winter egg mass surveys were performed in winter 2019 and 2020. A survey of new, healthy egg masses can help predict the expected gypsy moth population in the subsequent summer.

The 2019 egg mass survey indicated gypsy moth pressure was expected to remain high and treatment was recommended to protect tree health. An aerial application of *Bacillus thuringiensis kurstaki* (BtK) was performed on May 28, 2019. Subsequent visual observation of gypsy moth populations indicated the BtK application had a moderate effect on caterpillars. As summer progressed, visual observations indicated high presence of natural disease pressure on gypsy moth population, leading to significant caterpillar mortality. By late summer, few emerging adults were visible compared to previous years.

The winter 2020 egg mass survey indicated that gypsy moth pressure within areas of concern is expected to be low in 2020. Caterpillars are likely to remain noticeable compared to baseline populations, but the population is not expected to be high enough to cause tree health impacts. **Therefore, I do not recommend additional treatment to the area of concern in 2020.**

I will continue to coordinate with City staff to review reports of gypsy moth activities and monitor and assess known population centers for at least one more year. If you have any questions or would like further information, please contact me by phone at 248-221-0439 or via email at lee.mueller@davey.com.

Regards,



Lee S. Mueller, CF

Doug La Fave
City of East Grand Rapids
March 8, 2019

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